

SEQUENCE LISTING

<110> Lotze, Michael T
Tahara, Hideaki

<120> Methods And Reagents For Inducing Immunity

<130> UPT-004

<150> 60/418,865

<151> 2002-10-15

<160> 87

<170> PatentIn version 3.1

<210> 1

<211> 1314

<212> DNA

<213> Mus musculus

<400> 1

```

ggggggggggg atttagagac ttgctottgc actaccaaag ccacaaagca gccttgcaga      60
aaagagagct ccatcatgcc tggctcagca ctgctatgct gcctgctctt actgactggc      120
atgaggatca gcagggggcca gtacagccgg gaagacaata actgcaccca cttcccagtc      180
ggccagagcc acatgctcct agagctgagg actgccttca gccagggtgaa gactttcttt      240
caaacaaagg accagctgga caacatactg ctaaccgact ccttaatgca ggactttaag      300
ggttactttgg gttgccaaagc cttatcggaa atgatccagt tttacctggt agaagtgatg      360
ccccaggcag agaagcatgg ccagaaaatc aaggagcatt tgaattccct gggtgagaag      420
ctgaagaccc tcaggatgag gctgaggcgc tgtcatcgat ttctccctg tgaaaataag      480
agcaaggcag tggagcaggt gaagagtgat ttttaataagc tccaagacca aggtgtctac      540
aaggccatga atgaatttga catcttcatc aactgcatag aagcatacat gatgatcaaa      600
atgaaaagct aaaacacctg cagtgtgtat tgagtctgct ggactccagg acctagacag      660
agctctctaa atctgatcca gggatcttag ctaacggaaa caactccttg gaaaacctcg      720
tttgtacctc tctccgaaat atttattacc tctgatacct cagttcccat tctatttatt      780
cactgagctt ctctgtgaac tatttagaaa gaagcccaat attataattt tacagtattt      840
attattttta acctgtgttt aagctgtttc cattggggac actttatagt atttaaaggg      900
agattatatt atatgatggg aggggttctt ccttggggaag caattgaagc ttctattcta      960
aggctggcca cacttgagag ctgcagggcc ctttgctatg gtgtcctttc aattgctctc     1020
atccctgagt tcagagctcc taagagagtt gtgaagaaac tcatgggtct tgggaagaga     1080
aaccagggag atcctttgat gatcattcct gcagcagctc agagggttcc cctactgtca     1140

```

tccccagcc gcttcatccc tgaaaactgt ggccagtttg ttatttataa ccacctaataa 1200
 ttagttctaa tagaactcat ttttaactag aagtaatgca attcctctgg gaatggtgta 1260
 ttgtttgtct gcctttgtag cagcatctaa ttttgaataa atggatctta ttcg 1314

<210> 2
 <211> 178
 <212> PRT
 <213> Mus musculus

<400> 2

Met Pro Gly Ser Ala Leu Leu Cys Cys Leu Leu Leu Leu Thr Gly Met
 1 5 10 15

Arg Ile Ser Arg Gly Gln Tyr Ser Arg Glu Asp Asn Asn Cys Thr His
 20 25 30

Phe Pro Val Gly Gln Ser His Met Leu Leu Glu Leu Arg Thr Ala Phe
 35 40 45

Ser Gln Val Lys Thr Phe Phe Gln Thr Lys Asp Gln Leu Asp Asn Ile
 50 55 60

Leu Leu Thr Asp Ser Leu Met Gln Asp Phe Lys Gly Tyr Leu Gly Cys
 65 70 75 80

Gln Ala Leu Ser Glu Met Ile Gln Phe Tyr Leu Val Glu Val Met Pro
 85 90 95

Gln Ala Glu Lys His Gly Pro Glu Ile Lys Glu His Leu Asn Ser Leu
 100 105 110

Gly Glu Lys Leu Lys Thr Leu Arg Met Arg Leu Arg Arg Cys His Arg
 115 120 125

Phe Leu Pro Cys Glu Asn Lys Ser Lys Ala Val Glu Gln Val Lys Ser
 130 135 140

Asp Phe Asn Lys Leu Gln Asp Gln Gly Val Tyr Lys Ala Met Asn Glu
 145 150 155 160

Phe Asp Ile Phe Ile Asn Cys Ile Glu Ala Tyr Met Met Ile Lys Met
 165 170 175

Lys Ser

<210> 3
 <211> 674
 <212> DNA
 <213> Homo sapiens

<400> 3
 gatccaaaca tgagccgcct gcccgctctg ctctgtctcc aactcctggg ccgccccgga 60
 ctccaagctc ccatgacca gacaacgtcc ttgaagacaa gctggggttaa ctgctctaac 120
 atgatcgatg aaattataac acacttaaag cagccacctt tgcctttgct ggacttcaac 180
 aacctcaatg gggaagacca agacattctg atggaaaata accttcgaag gccaaacctg 240
 gaggcattca acagggctgt caagagttta cagaacgcat cagcaattga gagcattctt 300
 aaaaatctcc tgccatgtct gccctggcc acggccgcac ccacgcgaca tccaatccat 360
 atcaaggacg gtgactggaa tgaattccgg aggaaactga cgttctatct gaaaaccctt 420
 gagaatgcgc aggctcaaca gacgactttg agcctcgcga tcttttagtc caacgtccag 480
 ctcgttctct gggccttctc accacagcgc ctcgggacat caaaaacagc agaacttctg 540
 aaacctctgg gtcattctct acacattcca ggaccagaag catttcacct tttcctgcgg 600
 catcagatga attgttaatt atctaatttc tgaaatgtgc agctcccatt tggccttgtg 660
 cggttggtgt ctca 674

<210> 4
 <211> 152
 <212> PRT
 <213> Homo sapiens

<400> 4
 Met Ser Arg Leu Pro Val Leu Leu Leu Leu Gln Leu Leu Val Arg Pro
 1 5 10 15
 Gly Leu Gln Ala Pro Met Thr Gln Thr Thr Ser Leu Lys Thr Ser Trp
 20 25 30
 Val Asn Cys Ser Asn Met Ile Asp Glu Ile Ile Thr His Leu Lys Gln
 35 40 45
 Pro Pro Leu Pro Leu Leu Asp Phe Asn Asn Leu Asn Gly Glu Asp Gln
 50 55 60
 Asp Ile Leu Met Glu Asn Asn Leu Arg Arg Pro Asn Leu Glu Ala Phe
 65 70 75 80

Asn Arg Ala Val Lys Ser Leu Gln Asn Ala Ser Ala Ile Glu Ser Ile
85 90 95

Leu Lys Asn Leu Leu Pro Cys Leu Pro Leu Ala Thr Ala Ala Pro Thr
100 105 110

Arg His Pro Ile His Ile Lys Asp Gly Asp Trp Asn Glu Phe Arg Arg
115 120 125

Lys Leu Thr Phe Tyr Leu Lys Thr Leu Glu Asn Ala Gln Ala Gln Gln
130 135 140

Thr Thr Leu Ser Leu Ala Ile Phe
145 150

<210> 5
<211> 614
<212> DNA
<213> Homo sapiens

<400> 5
gatcgttagc ttctcctgat aaactaattg cctcacattg tcaactgcaa tcgacaccta 60
ttaatgggtc tcacctccca actgcttccc cctctgttct tcttgctagc atgtgccggc 120
aactttgtcc acggacacaa gtgcgatata accttacagg agatcatcaa aactttgaac 180
agcctcacag agcagaagac tctgtgcacc gagttgaccg taacagacat ctttgctgcc 240
tccaagaaca caactgagaa ggaaaccttc tgcagggctg cgactgtgct ccggcagttc 300
tacagccacc atgagaagga cactcgtgct ctgggtgcga ctgcacagca gttccacagg 360
cacaagcagc tgatccgatt cctgaaacgg ctgcacagga acctctgggg cctggcgggc 420
ttgaattcct gtcctgtgaa ggaagccaac cagagtacgt tggaaaactt cttggaaagg 480
ctaaagacga tcatgagaga gaaatattca aagtgttcga gctgaatatt ttaatttatg 540
agtttttgat agctttatct ttttaagtatt tatatatatta taactcatca taaaataaag 600
tatatataga atct 614

<210> 6
<211> 153
<212> PRT
<213> Homo sapiens

<400> 6

Met Gly Leu Thr Ser Gln Leu Leu Pro Pro Leu Phe Phe Leu Leu Ala
1 5 10 15

Cys Ala Gly Asn Phe Val His Gly His Lys Cys Asp Ile Thr Leu Gln
20 25 30

Glu Ile Ile Lys Thr Leu Asn Ser Leu Thr Glu Gln Lys Thr Leu Cys
35 40 45

Thr Glu Leu Thr Val Thr Asp Ile Phe Ala Ala Ser Lys Asn Thr Thr
50 55 60

Glu Lys Glu Thr Phe Cys Arg Ala Ala Thr Val Leu Arg Gln Phe Tyr
65 70 75 80

Ser His His Glu Lys Asp Thr Arg Cys Leu Gly Ala Thr Ala Gln Gln
85 90 95

Phe His Arg His Lys Gln Leu Ile Arg Phe Leu Lys Arg Leu Asp Arg
100 105 110

Asn Leu Trp Gly Leu Ala Gly Leu Asn Ser Cys Pro Val Lys Glu Ala
115 120 125

Asn Gln Ser Thr Leu Glu Asn Phe Leu Glu Arg Leu Lys Thr Ile Met
130 135 140

Arg Glu Lys Tyr Ser Lys Cys Ser Ser
145 150

<210> 7
<211> 1604
<212> DNA
<213> Homo sapiens

<400> 7
gaattcctct ggtcctcatc caggtgcgcg ggaagcaggt gccaggaga gaggggataa 60
tgaagattcc atgctgatga tcccaaagat tgaacctgca gaccaagcgc aaagtagaaa 120
ctgaaagtac actgctggcg gatcctacgg aagttatgga aaaggcaaag cgcagagcca 180
cgccgtagtg tgtgccgccc cccttgggat ggatgaaact gcagtcgcgg cgtgggtaag 240
aggaaccagc tgcagagatc accctgcccc acacagactc ggcaactccg cggaagacca 300
gggtcctggg agtgactatg ggcggtgaga gcttgctcct gctccagttg cggtcatcat 360
gactacgccc gcctcccgca gaccatgttc catgtttctt ttaggtatat ctttggactt 420
cctcccctga tccttgttct gttgccagta gcatcatctg attgtgatat tgaaggtaaa 480
gatggcaaac aatatgagag tgttctaata gtcagcatcg atcaattatt ggacagcatg 540

```

aaagaaattg gtagcaattg cctgaataat gaatttaact tttttaaag acatatctgt      600
gatgctaata aggaaggtat gtttttattc cgtgctgctc gcaagttgag gcaatttctt      660
aaaatgaata gcactgggtga ttttgatctc cacttattaa aagtttcaga aggcacaaca      720
atactgttga actgcactgg ccagggttaaa ggaagaaaac cagctgccct ggggtgaagcc      780
caaccaacaa agagtttgga agaaaataaa tctttaaagg aacagaaaaa actgaatgac      840
ttgtgtttcc taaagagact attacaagag ataaaaactt gttggaataa aattttgatg      900
ggcactaaag aacactgaaa aatatggagt ggcaatatag aaacacgaac tttagctgca      960
tcctccaaga atctatctgc ttatgcagtt tttcagagtg gaatgcttcc tagaagttac     1020
tgaatgcacc atggtcaaaa cggattaggg catttgagaa atgcatattg tattactaga     1080
agatgaatac aaacaatgga aactgaatgc tccagtcaac aaactatttc ttatatatgt     1140
gaacatttat caatcagtat aattctgtac tgatttttgt aagacaatcc atgtaaggta     1200
tcagttgcaa taatacttct caaacctggt taaatatctt aagacattaa atctatgaag     1260
tatataatgg tttcaaagat tcaaaattga cattgcttta ctgtcaaaat aattttatgg     1320
ctcactatga atctattata ctgtattaag agtgaaaatt gtcttcttct gtgctggaga     1380
tgtttttagag ttaacaatga tatatggata atgccgggtga gaataagaga gtcataaacc     1440
ttaagtaagc aacagcataa caagggtcaa gatacctaaa agagatttca agagatttaa     1500
ttaatcatga atgtgtaaca cagtgccttc aataaatggg atagcaaatg ttttgacatg     1560
aaaaaaggac aatttcaaaa aaataaaatg caaatTTTTT taaa                        1604

```

```

<210> 8
<211> 177
<212> PRT
<213> Homo sapiens

```

```
<400> 8
```

```

Met Phe His Val Ser Phe Arg Tyr Ile Phe Gly Leu Pro Pro Leu Ile
1           5           10          15

```

```

Leu Val Leu Leu Pro Val Ala Ser Ser Asp Cys Asp Ile Glu Gly Lys
          20          25          30

```

```

Asp Gly Lys Gln Tyr Glu Ser Val Leu Met Val Ser Ile Asp Gln Leu
          35          40          45

```

```

Leu Asp Ser Met Lys Glu Ile Gly Ser Asn Cys Leu Asn Asn Glu Phe
          50          55          60

```

Asn Phe Phe Lys Arg His Ile Cys Asp Ala Asn Lys Glu Gly Met Phe
65 70 75 80

Leu Phe Arg Ala Ala Arg Lys Leu Arg Gln Phe Leu Lys Met Asn Ser
85 90 95

Thr Gly Asp Phe Asp Leu His Leu Leu Lys Val Ser Glu Gly Thr Thr
100 105 110

Ile Leu Leu Asn Cys Thr Gly Gln Val Lys Gly Arg Lys Pro Ala Ala
115 120 125

Leu Gly Glu Ala Gln Pro Thr Lys Ser Leu Glu Glu Asn Lys Ser Leu
130 135 140

Lys Glu Gln Lys Lys Leu Asn Asp Leu Cys Phe Leu Lys Arg Leu Leu
145 150 155 160

Gln Glu Ile Lys Thr Cys Trp Asn Lys Ile Leu Met Gly Thr Lys Glu
165 170 175

His

<210> 9
<211> 515
<212> DNA
<213> Artificial sequence

<220>
<223> Viral IL-10

<400> 9
ccatggagcg aaggttagtg gtcactctgc agtgccctggt gctgctttac ctggcacctg 60
agtgtggagg tacagaccaa tgtgacaatt ttccccaaat gttgaggagac ctaagagatg 120
ccttcagtcg tgttaaaacc tttttccaga caaaggacga ggtagataac cttttgctca 180
aggagtctct gctagaggac ttttaagggt accttggatg ccaggccctg tcagaaatga 240
tccaattcta cctggaggaa gtcatgccac aggctgaaaa ccaggacccg gaggctaagg 300
accatgtcaa ttctttgggt gaaaatctaa agaccctacg gctccgcctg cgcaggtgcc 360
acaggttcct gccgtgtgag aacaagagta aagctgtgga acagataaaa aatgccttta 420
acaagctgca ggaaaaagga atttacaag ccatgagtga atttgacatt tttattaact 480
acatagaagc atacatgaca attaaagcca ggtga 515

<210> 10
 <211> 172
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Viral IL-10

<400> 10

Met Glu Arg Arg Leu Val Val Thr Leu Gln Cys Leu Val Leu Leu Tyr
 1 5 10 15

Leu Ala Pro Glu Cys Gly Gly Asp Asn Gln Cys Asp Asn Phe Pro Gln
 20 25 30

Met Leu Arg Asp Leu Arg Asp Ala Phe Ser Arg Val Leu Thr Phe Phe
 35 40 45

Gln Tyr Leu Cys Glu Val Asp Asn Leu Leu Leu Lys Glu Ser Leu Leu
 50 55 60

Gly Cys Phe Leu Gly Tyr Leu Gly Cys Gln Ala Leu Ser Glu Met Ile
 65 70 75 80

Gln Phe Gln Leu Glu Glu Val Met Pro Gln Ala Glu Asn Gln Asn Pro
 85 90 95

Glu Ala Leu Asn His Val Asn Ser Leu Gly Glu Ala Leu Leu Gln Leu
 100 105 110

Arg Leu Arg Leu Arg Arg Cys His Arg Phe Leu Pro Cys Glu Asn Leu
 115 120 125

Ser Leu Ala Val Glu Gln Ile Leu Asp Ala Phe Asp Lys Leu Gln Glu
 130 135 140

Leu Gly Ile Gln Leu Ala Met Ser Glu Phe Cys Ile Phe Ile Asn Gln
 145 150 155 160

Ile Glu Ala Gln Met Tyr Met Tyr Ile Leu Ala Arg
 165 170

<210> 11
 <211> 2527
 <212> DNA
 <213> Homo Sapiens

<400> 11

acctccctcc	gcggagcagc	cagacagcga	gggccccggc	cgggggcagg	ggggacgccc	60
cgtccggggc	accccccccg	gctctgagcc	gcccgcgggg	cgggcctcgg	cccggagcgg	120
aggaaggagt	cgccgaggag	cagcctgagg	ccccagagtc	tgagacgagc	cgccgccgcc	180
cccgccactg	cggggaggag	ggggaggagg	agcgggagga	gggacgagct	ggtcgggaga	240
agaggaaaaa	aacttttgag	acttttccgt	tgccgctggg	agccggaggc	gcggggacct	300
cttggcgcg	cgtgccccg	cgaggaggca	ggacttgggg	acccagacc	gcctcccttt	360
gccgcgggg	acgcttgctc	cctccctgcc	ccctacacgg	cgccctcag	gcgcccccat	420
tccggaccag	ccctcgggag	tcgcgcaccc	ggcctccgc	aaagactttt	ccccagacct	480
cgggcgcacc	ccctgcacgc	cgccttcac	cccggcctgt	ctcctgagcc	cccgcgcac	540
ctagaccctt	tctcctccag	gagacggatc	tctctccgac	ctgccacaga	tccctattc	600
aagaccaccc	accttctggt	accagatcgc	gcccatctag	gttatttccg	tgggatactg	660
agacaccccc	ggtccaagcc	tcccctccac	cactgcgcc	ttctccctga	ggagcctcag	720
ctttccctcg	aggccctcct	accttttgcc	gggagacccc	cagccctgc	aggggcgggg	780
cctccccacc	acaccagccc	tgttcgcgt	ctcggcagtg	cggggggcg	ccgcctcccc	840
catgccgccc	tccgggctgc	ggctgctgcc	gctgctgcta	ccgctgctgt	ggctactggt	900
gctgacgct	ggcccgcgg	cgcggggact	atccacctgc	aagactatcg	acatggagct	960
ggtgaagcgg	aagcgcacgc	aggccatccg	cggccagatc	ctgtccaagc	tgcggctcgc	1020
cagccccccg	agccaggggg	aggtgccgcc	cggcccgtg	cccgaggccg	tgctcgccct	1080
ctacaacagc	acccgcgacc	gggtggccgg	ggagagtgca	gaaccggagc	ccgagcctga	1140
ggccgactac	tacgccaagg	aggtcacccg	cgtgctaata	gtggaaaccc	acaacgaaat	1200
ctatgacaag	ttcaagcaga	gtacacacag	catatatatg	ttcttcaaca	catcagagct	1260
ccgagaagcg	gtacctgaac	ccgtgttgct	ctcccgggca	gagctgcgtc	tgctgaggct	1320
caagttaaaa	gtggagcagc	acgtggagct	gtaccagaaa	tacagcaaca	attcctggcg	1380
atacctcagc	aaccggctgc	tggcaccacg	cgaactcgcca	gagtggttat	cttttgatgt	1440
caccggagtt	gtgcggcagt	ggttgagccg	tggaggggaa	attgagggct	ttcgccttag	1500
cgccactgc	tctgtgaca	gcagggataa	cacactgcaa	gtggacatca	acgggttcac	1560
taccggccgc	cgaggtgacc	tggccaccat	tcatggcatg	aaccggcctt	tctgcttct	1620
catggccacc	ccgtggaga	gggccagca	tctgcaaagc	tcccggcacc	gccgagccct	1680
ggacaccaac	tattgcttca	gctccacgga	gaagaactgc	tgctgcggc	agctgtacat	1740
tgacttccgc	aaggacctcg	gctggaagtg	gatccacgag	cccaagggct	accatgccaa	1800

cttctgcctc gggccctgcc cctacatttg gagcctggac acgcagtaca gcaaggtcct 1860
 gggcctgtac aaccagcata acccgggcgc ctcgggcgcg ccgtgctgcg tgccgcaggg 1920
 gctggagccg ctgccatcg tgtactacgt gggccgcaag cccaaggtgg aggagctgtc 1980
 caacatgac gtgcgtcct gcaagtgcag ctgaggtccc gccccgcccc gccccgcccc 2040
 gccccacccc gccccgcccc cgctgccttg cccatggggg ctgtatttaa ggacaccgtg 2100
 cccaagccc acctggggcc ccattaaaga tggagagagg actgcggatc tctgtgtcat 2160
 tgggcgctg cctggggtct ccatccctga cgttcccca ctccactcc ctctctctcc 2220
 ctctctgcct cctcctgcct gtctgcacta ttcctttgcc cggcatcaag gcacagggga 2280
 ccagtgggga aactactgt agttagatct atttattgag caccttgggc actgttgaag 2340
 tgccttacat taatgaactc attcagtcac catagcaaca ctctgagatg gcagggactc 2400
 tgataacacc cattttaaag gttgaggaaa caagcccaga gaggttaagg gaggagtcc 2460
 tgcccaccag gaacctgctt tagtggggga tagtgaagaa gacaataaaa gatagtagtt 2520
 caggcca 2527

<210> 12
 <211> 390
 <212> PRT
 <213> Homo Sapiens

<400> 12

Met Pro Pro Ser Gly Leu Arg Leu Leu Leu Leu Leu Leu Pro Leu Leu
 1 5 10 15

Trp Leu Leu Val Leu Thr Pro Gly Arg Pro Ala Ala Gly Leu Ser Thr
 20 25 30

Cys Lys Thr Ile Asp Met Glu Leu Val Lys Arg Lys Arg Ile Glu Ala
 35 40 45

Ile Arg Gly Gln Ile Leu Ser Lys Leu Arg Leu Ala Ser Pro Pro Ser
 50 55 60

Gln Gly Glu Val Pro Pro Gly Pro Leu Pro Glu Ala Val Leu Ala Leu
 65 70 75 80

Tyr Asn Ser Thr Arg Asp Arg Val Ala Gly Glu Ser Ala Glu Pro Glu
 85 90 95

Pro Glu Pro Glu Ala Asp Tyr Tyr Ala Lys Glu Val Thr Arg Val Leu
 100 105 110

Met	Val	Glu	Thr	His	Asn	Glu	Ile	Tyr	Asp	Lys	Phe	Lys	Gln	Ser	Thr	115	120	125
His	Ser	Ile	Tyr	Met	Phe	Phe	Asn	Thr	Ser	Glu	Leu	Arg	Glu	Ala	Val	130	135	140
Pro	Glu	Pro	Val	Leu	Leu	Ser	Arg	Ala	Glu	Leu	Arg	Leu	Leu	Arg	Leu	145	150	155
Lys	Leu	Lys	Val	Glu	Gln	His	Val	Glu	Leu	Tyr	Gln	Lys	Tyr	Ser	Asn	165	170	175
Asn	Ser	Trp	Arg	Tyr	Leu	Ser	Asn	Arg	Leu	Leu	Ala	Pro	Ser	Asp	Ser	180	185	190
Pro	Glu	Trp	Leu	Ser	Phe	Asp	Val	Thr	Gly	Val	Val	Arg	Gln	Trp	Leu	195	200	205
Ser	Arg	Gly	Gly	Glu	Ile	Glu	Gly	Phe	Arg	Leu	Ser	Ala	His	Cys	Ser	210	215	220
Cys	Asp	Ser	Arg	Asp	Asn	Thr	Leu	Gln	Val	Asp	Ile	Asn	Gly	Phe	Thr	225	230	235
Thr	Gly	Arg	Arg	Gly	Asp	Leu	Ala	Thr	Ile	His	Gly	Met	Asn	Arg	Pro	245	250	255
Phe	Leu	Leu	Leu	Met	Ala	Thr	Pro	Leu	Glu	Arg	Ala	Gln	His	Leu	Gln	260	265	270
Ser	Ser	Arg	His	Arg	Arg	Ala	Leu	Asp	Thr	Asn	Tyr	Cys	Phe	Ser	Ser	275	280	285
Thr	Glu	Lys	Asn	Cys	Cys	Val	Arg	Gln	Leu	Tyr	Ile	Asp	Phe	Arg	Lys	290	295	300
Asp	Leu	Gly	Trp	Lys	Trp	Ile	His	Glu	Pro	Lys	Gly	Tyr	His	Ala	Asn	305	310	315
Phe	Cys	Leu	Gly	Pro	Cys	Pro	Tyr	Ile	Trp	Ser	Leu	Asp	Thr	Gln	Tyr	325	330	335
Ser	Lys	Val	Leu	Ala	Leu	Tyr	Asn	Gln	His	Asn	Pro	Gly	Ala	Ser	Ala	340	345	350

Ala Pro Cys Cys Val Pro Gln Ala Leu Glu Pro Leu Pro Ile Val Tyr
 355 360 365

Tyr Val Gly Arg Lys Pro Lys Val Glu Gln Leu Ser Asn Met Ile Val
 370 375 380

Arg Ser Cys Lys Cys Ser
 385 390

<210> 13
 <211> 1695
 <212> DNA
 <213> Homo Sapiens

<400> 13
 caagcaggat acgtttttct gttgggcatt gactagattg tttgcaaaag tttcgcatca 60
 aaaacaaaca acaacaacaa aaaaccaaac aactctcctt gatctatact ttgagaattg 120
 ttgattttctt ttttttttatt ctgacttttta aaaacaactt ttttttccac ttttttaaaa 180
 aatgcactac tgtgtgctga gcgcttttct gatcctgcat ctggtcacgg tcgcgctcag 240
 cctgtctacc tgcagcacac tcgatatgga ccagttcatg cgcaagagga tcgaggcgat 300
 ccgcgggcag atcctgagca agctgaagct caccagtccc ccagaagact atcctgagcc 360
 cgaggaagtc cccccggagg tgatttccat ctacaacagc accagggact tgctccagga 420
 gaaggcgagc cggagggcgg ccgcctgcga gcgcgagagg agcgacgaag agtactacgc 480
 caaggagggtt tacaaaatag acatgccgcc cttcttcccc tccgaaaatg ccatcccgcc 540
 cactttctac agaccctact tcagaattgt tcgatttgac gtctcagcaa tggagaagaa 600
 tgctttccaat ttggtgaaag cagagttcag agtctttcgt ttgcagaacc caaaagccag 660
 agtgccctgaa caacggattg agctatatca gattctcaag tccaaagatt taacatctcc 720
 aaccagcgc tacatcgaca gcaaagttgt gaaaacaaga gcagaaggcg aatggctctc 780
 cttcgatgta actgatgctg ttcatgaatg gcttcacat aaagacagga acctgggatt 840
 taaaataagc ttacactgtc cctgctgcac ttttgtacca tctaataatt acatcatccc 900
 aaataaaagt gaagaactag aagcaagatt tgcaggtatt gatggcacct ccacatatac 960
 cagtggatgat cagaaaacta taaagtccac taggaaaaaa aacagtggga agacccaca 1020
 tctcctgcta atgttattgc cctcctacag acttgagtca caacagacca accggcggaa 1080
 gaagcgtgct ttggatgcgg cctattgctt tagaaatgtg caggataatt gctgcctacg 1140
 tccactttac attgatttca agagggatct aggggtggaaa tggatacacg aacccaaagg 1200

gtacaatgcc aacttctgtg ctggagcatg cccgtattta tggagttcag acactcagca 1260
 cagcaggggtc ctgagcttat ataataccat aaatccagaa gcatctgctt ctccttgctg 1320
 cgtgtcccaa gatttagaac ctctaaccat tctctactac attggcaaaa cacccaagat 1380
 tgaacagctt tctaatatga ttgtaaagtc ttgcaaatgc agctaaaatt cttggaaaag 1440
 tggcaagacc aaaatgacaa tgatgatgat aatgatgatg acgacgacaa cgatgatgct 1500
 tgtaacaaga aaacataaga gagccttggt tcatcagtgt taaaaaattt ttgaaaaggc 1560
 ggtactagtt cagacacttt ggaagtttgt gttctgtttg ttaaaactgg catctgacac 1620
 aaaaaaagtt gaaggcctta ttctacattt cacctacttt gtaagtgaga gagacaagaa 1680
 gcaaattttt ttaaa 1695

<210> 14
 <211> 414
 <212> PRT
 <213> Homo Sapiens

<400> 14

Met His Tyr Cys Val Leu Ser Ala Phe Leu Ile Leu His Leu Val Thr
 1 5 10 15

Val Ala Leu Ser Leu Ser Thr Cys Ser Thr Leu Asp Met Asp Gln Phe
 20 25 30

Met Arg Lys Arg Ile Glu Ala Ile Arg Gly Gln Ile Leu Ser Lys Leu
 35 40 45

Lys Leu Thr Ser Pro Pro Glu Asp Tyr Pro Glu Pro Glu Glu Val Pro
 50 55 60

Pro Glu Val Ile Ser Ile Tyr Asn Ser Thr Arg Asp Leu Leu Gln Glu
 65 70 75 80

Lys Ala Ser Arg Arg Ala Ala Ala Cys Glu Arg Glu Arg Ser Asp Glu
 85 90 95

Glu Tyr Tyr Ala Lys Glu Val Tyr Lys Ile Asp Met Pro Pro Phe Phe
 100 105 110

Pro Ser Glu Asn Ala Ile Pro Pro Thr Phe Tyr Arg Pro Tyr Phe Arg
 115 120 125

Ile Val Arg Phe Asp Val Ser Ala Met Glu Lys Asn Ala Ser Asn Leu
 130 135 140

Val Lys Ala Glu Phe Arg Val Phe Arg Leu Gln Asn Pro Lys Ala Arg
 145 150 155 160

Val Pro Glu Gln Arg Ile Glu Leu Tyr Gln Ile Leu Lys Ser Lys Asp
 165 170 175

Leu Thr Ser Pro Thr Gln Arg Tyr Ile Asp Ser Lys Val Val Lys Thr
 180 185 190

Arg Ala Glu Gly Glu Trp Leu Ser Phe Asp Val Thr Asp Ala Val His
 195 200 205

Glu Trp Leu His His Lys Asp Arg Asn Leu Gly Phe Lys Ile Ser Leu
 210 215 220

His Cys Pro Cys Cys Thr Phe Val Pro Ser Asn Asn Tyr Ile Ile Pro
 225 230 235 240

Asn Lys Ser Glu Glu Leu Glu Ala Arg Phe Ala Gly Ile Asp Gly Thr
 245 250 255

Ser Thr Tyr Thr Ser Gly Asp Gln Lys Thr Ile Lys Ser Thr Arg Lys
 260 265 270

Lys Asn Ser Gly Lys Thr Pro His Leu Leu Leu Met Leu Leu Pro Ser
 275 280 285

Tyr Arg Leu Glu Ser Gln Gln Thr Asn Arg Arg Lys Lys Arg Ala Leu
 290 295 300

Asp Ala Ala Tyr Cys Phe Arg Asn Val Gln Asp Asn Cys Cys Leu Arg
 305 310 315 320

Pro Leu Tyr Ile Asp Phe Lys Arg Asp Leu Gly Trp Lys Trp Ile His
 325 330 335

Glu Pro Lys Gly Tyr Asn Ala Asn Phe Cys Ala Gly Ala Cys Pro Tyr
 340 345 350

Leu Trp Ser Ser Asp Thr Gln His Ser Arg Val Leu Ser Leu Tyr Asn
 355 360 365

Thr Ile Asn Pro Glu Ala Ser Ala Ser Pro Cys Cys Val Ser Gln Asp
 370 375 380

Leu Glu Pro Leu Thr Ile Leu Tyr Tyr Ile Gly Lys Thr Pro Lys Ile
 385 390 395 400

Glu Gln Leu Ser Asn Met Ile Val Lys Ser Cys Lys Cys Ser
 405 410

<210> 15
 <211> 2574
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (254)..(1492)
 <223>

<400> 15
 cctgttttaga cacatggaca acaatcccag cgctacaagg cacacagtcc gcttcttcgt 60
 cctcagggtt gccagcgctt cctggaagtc ctgaagctct cgcagtgcag tgagttcatg 120
 caccttcttg ccaagcctca gtctttggga tctggggagg ccgcctgggtt ttcctccctc 180
 cttctgcacg tctgctgggg tctcttccctc tccaggcctt gccgtcccc tggcctctct 240
 tcccagctca cac atg aag atg cac ttg caa agg gct ctg gtg gtc ctg 289
 Met Lys Met His Leu Gln Arg Ala Leu Val Val Leu
 1 5 10
 gcc ctg ctg aac ttt gcc acg gtc agc ctc tct ctg tcc act tgc acc 337
 Ala Leu Leu Asn Phe Ala Thr Val Ser Leu Ser Leu Ser Thr Cys Thr
 15 20 25
 acc ttg gac ttc ggc cac atc aag aag aag agg gtg gaa gcc att agg 385
 Thr Leu Asp Phe Gly His Ile Lys Lys Lys Arg Val Glu Ala Ile Arg
 30 35 40
 gga cag atc ttg agc aag ctc agg ctc acc agc ccc cct gag cca acg 433
 Gly Gln Ile Leu Ser Lys Leu Arg Leu Thr Ser Pro Pro Glu Pro Thr
 45 50 55 60
 gtg atg acc cac gtc ccc tat cag gtc ctg gcc ctt tac aac agc acc 481
 Val Met Thr His Val Pro Tyr Gln Val Leu Ala Leu Tyr Asn Ser Thr
 65 70 75
 cgg gag ctg ctg gag gag atg cat ggg gag agg gag gaa ggc tgc acc 529
 Arg Glu Leu Leu Glu Glu Met His Gly Glu Arg Glu Glu Gly Cys Thr
 80 85 90
 cag gaa aac acc gag tcg gaa tac tat gcc aaa gaa atc cat aaa ttc 577
 Gln Glu Asn Thr Glu Ser Glu Tyr Tyr Ala Lys Glu Ile His Lys Phe
 95 100 105
 gac atg atc cag ggg ctg gcg gag cac aac gaa ctg gct gtc tgc cct 625
 Asp Met Ile Gln Gly Leu Ala Glu His Asn Glu Leu Ala Val Cys Pro

110	115	120	
aaa gga att acc tcc aag gtt ttc cgc ttc aat gtg tcc tca gtg gag Lys Gly Ile Thr Ser Lys Val Phe Arg Phe Asn Val Ser Ser Val Glu 125 130 135 140			673
aaa aat aga acc aac cta ttc cga gca gaa ttc cgg gtc ttg cgg gtg Lys Asn Arg Thr Asn Leu Phe Arg Ala Glu Phe Arg Val Leu Arg Val 145 150 155			721
ccc aac ccc agc tct aag cgg aat gag cag agg atc gag ctc ttc cag Pro Asn Pro Ser Ser Lys Arg Asn Glu Gln Arg Ile Glu Leu Phe Gln 160 165 170			769
atc ctt cgg cca gat gag cac att gcc aaa cag cgc tat atc ggt ggc Ile Leu Arg Pro Asp Glu His Ile Ala Lys Gln Arg Tyr Ile Gly Gly 175 180 185			817
aag aat ctg ccc aca cgg ggc act gcc gag tgg ctg tcc ttt gat gtc Lys Asn Leu Pro Thr Arg Gly Thr Ala Glu Trp Leu Ser Phe Asp Val 190 195 200			865
act gac act gtg cgt gag tgg ctg ttg aga aga gag tcc aac tta ggt Thr Asp Thr Val Arg Glu Trp Leu Leu Arg Arg Glu Ser Asn Leu Gly 205 210 215 220			913
cta gaa atc agc att cac tgt cca tgt cac acc ttt cag ccc aat gga Leu Glu Ile Ser Ile His Cys Pro Cys His Thr Phe Gln Pro Asn Gly 225 230 235			961
gat atc ctg gaa aac att cac gag gtg atg gaa atc aaa ttc aaa ggc Asp Ile Leu Glu Asn Ile His Glu Val Met Glu Ile Lys Phe Lys Gly 240 245 250			1009
gtg gac aat gag gat gac cat ggc cgt gga gat ctg ggg cgc ctc aag Val Asp Asn Glu Asp Asp His Gly Arg Gly Asp Leu Gly Arg Leu Lys 255 260 265			1057
aag cag aag gat cac cac aac cct cat cta atc ctc atg atg att ccc Lys Gln Lys Asp His His Asn Pro His Leu Ile Leu Met Met Ile Pro 270 275 280			1105
cca cac cgg ctc gac aac ccg ggc cag ggg ggt cag agg aag aag cgg Pro His Arg Leu Asp Asn Pro Gly Gln Gly Gly Gln Arg Lys Lys Arg 285 290 295 300			1153
gct ttg gac acc aat tac tgc ttc cgc aac ttg gag gag aac tgc tgt Ala Leu Asp Thr Asn Tyr Cys Phe Arg Asn Leu Glu Glu Asn Cys Cys 305 310 315			1201
gtg cgc ccc ctc tac att gac ttc cga cag gat ctg ggc tgg aag tgg Val Arg Pro Leu Tyr Ile Asp Phe Arg Gln Asp Leu Gly Trp Lys Trp 320 325 330			1249
gtc cat gaa cct aag ggc tac tat gcc aac ttc tgc tca ggc cct tgc Val His Glu Pro Lys Gly Tyr Tyr Ala Asn Phe Cys Ser Gly Pro Cys 335 340 345			1297
cca tac ctc cgc agt gca gac aca acc cac agc acg gtg ctg gga ctg Pro Tyr Leu Arg Ser Ala Asp Thr Thr His Ser Thr Val Leu Gly Leu			1345

350	355	360	
tac aac act ctg aac cct gaa gca tct gcc tcg cct tgc tgc gtg ccc			1393
Tyr Asn Thr Leu Asn Pro Glu Ala Ser Ala Ser Pro Cys Cys Val Pro			
365	370	375	380
cag gac ctg gag ccc ctg acc atc ctg tac tat gtt ggg agg acc ccc			1441
Gln Asp Leu Glu Pro Leu Thr Ile Leu Tyr Tyr Val Gly Arg Thr Pro			
385	390		395
aaa gtg gag cag ctc tcc aac atg gtg gtg aag tct tgt aaa tgt agc			1489
Lys Val Glu Gln Leu Ser Asn Met Val Val Lys Ser Cys Lys Cys Ser			
400	405		410
tga gacccacgt gcgacagaga gaggggagag agaaccacca ctgcctgact			1542
gcccgcctcct cgaggaaacac acaagcaaca aacctcactg agaggcctgg agcccacaac			1602
cttcggctcc gggcaaattg ctgagatgga ggtttccttt tggaacattt ctttcttgct			1662
ggctctgaga atcacggtgg taaagaaagt gtgggtttgg ttagaggaag gctgaactct			1722
tcagaacaca cagactttct gtgacgcaga cagaggggat ggggatagag gaaagggatg			1782
gtaagttgag atgttgtgtg gcaatgggat ttgggctacc ctaaaggag aaggaagggc			1842
agagaatggc tgggtcaggg ccagactgga agacaacttca gatctgaggt tggatttgct			1902
cattgctgta ccacatctgc tctagggaat ctggattatg ttatacaagg caagcatttt			1962
tttttttaaa gacagggttac gaagacaaag tcccagaatt gtatctcata ctgtctggga			2022
ttaagggcaa atctattact tttgcaaact gtcctctaca tcaattaaca tcgtgggtca			2082
ctacagggag aaaatccagg tcatgcagtt cctggcccat caactgtatt gggccttttg			2142
gatatgctga acgcagaaga aagggtggaa atcaaccctc tcctgtctgc cctctgggtc			2202
cctcctctca cctctccctc gatcatattt ccccttggaac acttggttag acgccttcca			2262
ggtcaggatg cacatttctg gattgtggtt ccattgcagcc ttggggcatt atgggtcttc			2322
ccccacttcc cctccaagac cctgtgttca tttggtgttc ctggaagcag gtgctacaac			2382
atgtgaggca ttcggggaag ctgcacatgt gccacacagt gacttggccc cagacgcata			2442
gactgaggta taaagacaag tatgaatatt actctcaaaa tctttgtata aataaatatt			2502
tttggggcat cctggatgat ttcattctct ggaatattgt ttctagaaca gtaaaagcct			2562
tattctaagg tg			2574
<210>	16		
<211>	412		
<212>	PRT		
<213>	Homo Sapiens		
<400>	16		

Met Lys Met His Leu Gln Arg Ala Leu Val Val Leu Ala Leu Leu Asn
 1 5 10 15
 Phe Ala Thr Val Ser Leu Ser Leu Ser Thr Cys Thr Thr Leu Asp Phe
 20 25 30
 Gly His Ile Lys Lys Lys Arg Val Glu Ala Ile Arg Gly Gln Ile Leu
 35 40 45
 Ser Lys Leu Arg Leu Thr Ser Pro Pro Glu Pro Thr Val Met Thr His
 50 55 60
 Val Pro Tyr Gln Val Leu Ala Leu Tyr Asn Ser Thr Arg Glu Leu Leu
 65 70 75 80
 Glu Glu Met His Gly Glu Arg Glu Glu Gly Cys Thr Gln Glu Asn Thr
 85 90 95
 Glu Ser Glu Tyr Tyr Ala Lys Glu Ile His Lys Phe Asp Met Ile Gln
 100 105 110
 Gly Leu Ala Glu His Asn Glu Leu Ala Val Cys Pro Lys Gly Ile Thr
 115 120 125
 Ser Lys Val Phe Arg Phe Asn Val Ser Ser Val Glu Lys Asn Arg Thr
 130 135 140
 Asn Leu Phe Arg Ala Glu Phe Arg Val Leu Arg Val Pro Asn Pro Ser
 145 150 155 160
 Ser Lys Arg Asn Glu Gln Arg Ile Glu Leu Phe Gln Ile Leu Arg Pro
 165 170 175
 Asp Glu His Ile Ala Lys Gln Arg Tyr Ile Gly Gly Lys Asn Leu Pro
 180 185 190
 Thr Arg Gly Thr Ala Glu Trp Leu Ser Phe Asp Val Thr Asp Thr Val
 195 200 205
 Arg Glu Trp Leu Leu Arg Arg Glu Ser Asn Leu Gly Leu Glu Ile Ser
 210 215 220
 Ile His Cys Pro Cys His Thr Phe Gln Pro Asn Gly Asp Ile Leu Glu
 225 230 235 240

Asn Ile His Glu Val Met Glu Ile Lys Phe Lys Gly Val Asp Asn Glu
245 250 255

Asp Asp His Gly Arg Gly Asp Leu Gly Arg Leu Lys Lys Gln Lys Asp
260 265 270

His His Asn Pro His Leu Ile Leu Met Met Ile Pro Pro His Arg Leu
275 280 285

Asp Asn Pro Gly Gln Gly Gly Gln Arg Lys Lys Arg Ala Leu Asp Thr
290 295 300

Asn Tyr Cys Phe Arg Asn Leu Glu Glu Asn Cys Cys Val Arg Pro Leu
305 310 315 320

Tyr Ile Asp Phe Arg Gln Asp Leu Gly Trp Lys Trp Val His Glu Pro
325 330 335

Lys Gly Tyr Tyr Ala Asn Phe Cys Ser Gly Pro Cys Pro Tyr Leu Arg
340 345 350

Ser Ala Asp Thr Thr His Ser Thr Val Leu Gly Leu Tyr Asn Thr Leu
355 360 365

Asn Pro Glu Ala Ser Ala Ser Pro Cys Cys Val Pro Gln Asp Leu Glu
370 375 380

Pro Leu Thr Ile Leu Tyr Tyr Val Gly Arg Thr Pro Lys Val Glu Gln
385 390 395 400

Leu Ser Asn Met Val Val Lys Ser Cys Lys Cys Ser
405 410

<210> 17
<211> 2064
<212> DNA
<213> Homo sapiens

<400> 17
gaattccgca ggcgctcggg gttggagcca ggcaccgtcg gtagcagcat ggctctcctc 60
tttctcttac cccttgatcat gcagggtgtg agcagggtcg agatgggcac cgcggatctg 120
gggcgctcct cagtgcctac accaactaat gttacaattg aatcctataa catgaaccct 180
atcgtatatt gggagtagca gatcatgcca cagggtccctg tttttaccgt agaggtaaag 240
aactatggtg ttaagaattc agaatggatt gatgcctgca tcaatatttc tcatcattat 300

tgtaatat	ctgatcat	gtggtgat	cca	tcaaattctc	tttgggtcag	agttaaagcc	360
agggttggac	aaaaagaatc	tgccatgca	aagtcagaag	aatttgctgt	atgccgagat		420
ggaaaaattg	gaccaccta	actggatatc	agaaaggagg	agaagcaaat	catgattgac		480
atatttcacc	cttcagtttt	tgtaaattga	gacgagcagg	aagtcgatta	tgatcccgaa		540
actacctgtt	acattagggt	gtacaatgtg	tatgtgagaa	tgaacggaag	tgagatccag		600
tataaaatac	tcacgcagaa	ggaagatgat	tgtgacgaga	ttcagtgcc	gttagcgatt		660
ccagtatcct	cactgaattc	tcagtactgt	gtttcagcag	aaggagtctt	acatgtgtgg		720
ggtgttacaa	ctgaaaagtc	aaaagaagtt	tgtattacca	ttttcaatag	cagtataaaa		780
ggttctcttt	ggattccagt	tgttgctgct	ttactactct	ttctagtgt	tagcctggta		840
ttcatctgtt	tttatattaa	gaaaattaat	ccattgaagg	aaaaaagcat	aatattacc		900
aagtccttga	tctctgtggt	aagaagtgt	actttagaga	caaacctga	atcaaatat		960
gtatcactca	tcacgtcata	ccagccattt	tccttagaaa	aggaggtggt	ctgtgaagag		1020
ccgttgtctc	cagcaacagt	tccaggcatg	cataccgaag	acaatccagg	aaaagtggaa		1080
catacagaag	aactttctag	tataacagaa	gtggtgacta	ctgaagaaaa	tattcctgac		1140
gtggtcccg	gcagccatct	gactccaata	gagagagaga	gttcttcacc	tttaagtagt		1200
aaccagtctg	aacctggcag	catcgcttta	aactcgtatc	actccagaaa	ttgttctgag		1260
agtgatcact	ccagaaatgg	ttttgatact	gattccagct	gtctggaatc	acatagctcc		1320
ttatctgact	cagaatttcc	cccaaataat	aaaggtgaaa	taaaaacaga	aggacaagag		1380
ctcataaccg	taataaaaagc	ccccacctcc	tttggttatg	ataaaccaca	tgtgctagt		1440
gatctacttg	tggtgatag	cggtaaagag	tccttgattg	gttatagacc	aacagaagat		1500
tccaaagaat	tttcatgaga	tcagctaagt	tgaccaact	ttgaagtctg	attttcctgg		1560
acagttttct	gctttaattt	catgaaaaga	ttatgatctc	agaaattgta	tcttagttgg		1620
tatcaaccaa	atggagtgac	ttagtgtaca	tgaaagcgta	aagaggatgt	gtggcatttt		1680
cacttttggc	ttgtaaagta	cagacttttt	ttttttttta	aacaaaaaaa	gcattgtaac		1740
ttatgaacct	ttacatccag	ataggttacc	agtaacggaa	catatccagt	actcctggtt		1800
cctaggtgag	caggtgatgc	cccagggacc	tttgtagcca	cttcactttt	tttcttttct		1860
ctgccttggt	atagcatatg	tgttttgtaa	gtttatgcat	acagtaattt	taagtaattt		1920
cagaagaaat	tctogaagct	tttcaaaatt	ggacttaaaa	tctaattcaa	actaatagaa		1980
ttaatggaat	atgtaaatag	aaacgtgtat	attttttatg	aaacattaca	gttagagatt		2040
tttaaataaa	gaattttaaa	actc					2064

<210> 18
 <211> 489
 <212> PRT
 <213> Homo sapiens

<400> 18

Met Ala Leu Leu Phe Leu Leu Pro Leu Val Met Gln Gly Val Ser Arg
 1 5 10 15

Ala Glu Met Gly Thr Ala Asp Leu Gly Pro Ser Ser Val Pro Thr Pro
 20 25 30

Thr Asn Val Thr Ile Glu Ser Tyr Asn Met Asn Pro Ile Val Tyr Trp
 35 40 45

Glu Tyr Gln Ile Met Pro Gln Val Pro Val Phe Thr Val Glu Val Lys
 50 55 60

Asn Tyr Gly Val Lys Asn Ser Glu Trp Ile Asp Ala Cys Ile Asn Ile
 65 70 75 80

Ser His His Tyr Cys Asn Ile Ser Asp His Val Gly Asp Pro Ser Asn
 85 90 95

Ser Leu Trp Val Arg Val Lys Ala Arg Val Gly Gln Lys Glu Ser Ala
 100 105 110

Tyr Ala Lys Ser Glu Glu Phe Ala Val Cys Arg Asp Gly Lys Ile Gly
 115 120 125

Pro Pro Lys Leu Asp Ile Arg Lys Glu Glu Lys Gln Ile Met Ile Asp
 130 135 140

Ile Phe His Pro Ser Val Phe Val Asn Gly Asp Glu Gln Glu Val Asp
 145 150 155 160

Tyr Asp Pro Glu Thr Thr Cys Tyr Ile Arg Val Tyr Asn Val Tyr Val
 165 170 175

Arg Met Asn Gly Ser Glu Ile Gln Tyr Lys Ile Leu Thr Gln Lys Glu
 180 185 190

Asp Asp Cys Asp Glu Ile Gln Cys Gln Leu Ala Ile Pro Val Ser Ser
 195 200 205

Leu Asn Ser Gln Tyr Cys Val Ser Ala Glu Gly Val Leu His Val Trp
 210 215 220
 Gly Val Thr Thr Glu Lys Ser Lys Glu Val Cys Ile Thr Ile Phe Asn
 225 230 235 240
 Ser Ser Ile Lys Gly Ser Leu Trp Ile Pro Val Val Ala Ala Leu Leu
 245 250 255
 Leu Phe Leu Val Leu Ser Leu Val Phe Ile Cys Phe Tyr Ile Lys Lys
 260 265 270
 Ile Asn Pro Leu Lys Glu Lys Ser Ile Ile Leu Pro Lys Ser Leu Ile
 275 280 285
 Ser Val Val Arg Ser Ala Thr Leu Glu Thr Lys Pro Glu Ser Lys Tyr
 290 295 300
 Val Ser Leu Ile Thr Ser Tyr Gln Pro Phe Ser Leu Glu Lys Glu Val
 305 310 315 320
 Val Cys Glu Glu Pro Leu Ser Pro Ala Thr Val Pro Gly Met His Thr
 325 330 335
 Glu Asp Asn Pro Gly Lys Val Glu His Thr Glu Glu Leu Ser Ser Ile
 340 345 350
 Thr Glu Val Val Thr Thr Glu Glu Asn Ile Pro Asp Val Val Pro Gly
 355 360 365
 Ser His Leu Thr Pro Ile Glu Arg Glu Ser Ser Ser Pro Leu Ser Ser
 370 375 380
 Asn Gln Ser Glu Pro Gly Ser Ile Ala Leu Asn Ser Tyr His Ser Arg
 385 390 395 400
 Asn Cys Ser Glu Ser Asp His Ser Arg Asn Gly Phe Asp Thr Asp Ser
 405 410 415
 Ser Cys Leu Glu Ser His Ser Ser Leu Ser Asp Ser Glu Phe Pro Pro
 420 425 430
 Asn Asn Lys Gly Glu Ile Lys Thr Glu Gly Gln Glu Leu Ile Thr Val
 435 440 445

Ile Lys Ala Pro Thr Ser Phe Gly Tyr Asp Lys Pro His Val Leu Val
 450 455 460

Asp Leu Leu Val Asp Asp Ser Gly Lys Glu Ser Leu Ile Gly Tyr Arg
 465 470 475 480

Pro Thr Glu Asp Ser Lys Glu Phe Ser
 485

<210> 19
 <211> 861
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (49)..(861)
 <223>

<400> 19
 gaattccgca ggcgctcggg gttggagcca ggcaccgtcg gtagcagc atg gct ctc 57
 Met Ala Leu
 1

ctc ttt ctc cta ccc ctt gtc atg cag ggt gtg agc agg gct gag atg 105
 Leu Phe Leu Leu Pro Leu Val Met Gln Gly Val Ser Arg Ala Glu Met
 5 10 15

ggc acc gcg gat ctg ggg ccg tcc tca gtg cct aca cca act aat gtt 153
 Gly Thr Ala Asp Leu Gly Pro Ser Ser Val Pro Thr Pro Thr Asn Val
 20 25 30 35

aca att gaa tcc tat aac atg aac cct atc gta tat tgg gag tac cag 201
 Thr Ile Glu Ser Tyr Asn Met Asn Pro Ile Val Tyr Trp Glu Tyr Gln
 40 45 50

atc atg cca cag gtc cct gtt ttt acc gta gag gta aag aac tat ggt 249
 Ile Met Pro Gln Val Pro Val Phe Thr Val Glu Val Lys Asn Tyr Gly
 55 60 65

gtt aag aat tca gaa tgg att gat gcc tgc atc aat att tct cat cat 297
 Val Lys Asn Ser Glu Trp Ile Asp Ala Cys Ile Asn Ile Ser His His
 70 75 80

tat tgt aat att tct gat cat gtt ggt gat cca tca aat tct ctt tgg 345
 Tyr Cys Asn Ile Ser Asp His Val Gly Asp Pro Ser Asn Ser Leu Trp
 85 90 95

gtc aga gtt aaa gcc agg gtt gga caa aaa gaa tct gcc tat gca aag 393
 Val Arg Val Lys Ala Arg Val Gly Gln Lys Glu Ser Ala Tyr Ala Lys
 100 105 110 115

tca gaa gaa ttt gct gta tgc cga gat gga aaa att gga cca cct aaa 441
 Ser Glu Glu Phe Ala Val Cys Arg Asp Gly Lys Ile Gly Pro Pro Lys
 120 125 130

ctg gat atc aga aag gag gag aag caa atc atg att gac ata ttt cac	489
Leu Asp Ile Arg Lys Glu Glu Lys Gln Ile Met Ile Asp Ile Phe His	
135 140 145	
cct tca gtt ttt gta aat gga gac gag cag gaa gtc gat tat gat ccc	537
Pro Ser Val Phe Val Asn Gly Asp Glu Gln Glu Val Asp Tyr Asp Pro	
150 155 160	
gaa act acc tgt tac att agg gtg tac aat gtg tat gtg aga atg aac	585
Glu Thr Thr Cys Tyr Ile Arg Val Tyr Asn Val Tyr Val Arg Met Asn	
165 170 175	
gga agt gag atc cag tat aaa ata ctc acg cag aag gaa gat gat tgt	633
Gly Ser Glu Ile Gln Tyr Lys Ile Leu Thr Gln Lys Glu Asp Asp Cys	
180 185 190 195	
gac gag att cag tgc cag tta gcg att cca gta tcc tca ctg aat tct	681
Asp Glu Ile Gln Cys Gln Leu Ala Ile Pro Val Ser Ser Leu Asn Ser	
200 205 210	
cag tac tgt gtt tca gca gaa gga gtc tta cat gtg tgg ggt gtt aca	729
Gln Tyr Cys Val Ser Ala Glu Gly Val Leu His Val Trp Gly Val Thr	
215 220 225	
act gaa aag tca aaa gaa gtt tgt att acc att ttc aat agc agt ata	777
Thr Glu Lys Ser Lys Glu Val Cys Ile Thr Ile Phe Asn Ser Ser Ile	
230 235 240	
aaa ggt tct ctt tgg att cca gtt gtt gct gct tta cta ctc ttt cta	825
Lys Gly Ser Leu Trp Ile Pro Val Val Ala Ala Leu Leu Leu Phe Leu	
245 250 255	
gtg ctt agc ctg gta ttc atc tgt ttt tat att tga	861
Val Leu Ser Leu Val Phe Ile Cys Phe Tyr Ile	
260 265 270	

<210> 20
 <211> 270
 <212> PRT
 <213> Homo Sapiens

<400> 20

Met Ala Leu Leu Phe Leu Leu Pro Leu Val Met Gln Gly Val Ser Arg	
1 5 10 15	
Ala Glu Met Gly Thr Ala Asp Leu Gly Pro Ser Ser Val Pro Thr Pro	
20 25 30	
Thr Asn Val Thr Ile Glu Ser Tyr Asn Met Asn Pro Ile Val Tyr Trp	
35 40 45	
Glu Tyr Gln Ile Met Pro Gln Val Pro Val Phe Thr Val Glu Val Lys	
50 55 60	

Asn Tyr Gly Val Lys Asn Ser Glu Trp Ile Asp Ala Cys Ile Asn Ile
 65 70 75 80
 Ser His His Tyr Cys Asn Ile Ser Asp His Val Gly Asp Pro Ser Asn
 85 90 95
 Ser Leu Trp Val Arg Val Lys Ala Arg Val Gly Gln Lys Glu Ser Ala
 100 105 110
 Tyr Ala Lys Ser Glu Glu Phe Ala Val Cys Arg Asp Gly Lys Ile Gly
 115 120 125
 Pro Pro Lys Leu Asp Ile Arg Lys Glu Glu Lys Gln Ile Met Ile Asp
 130 135 140
 Ile Phe His Pro Ser Val Phe Val Asn Gly Asp Glu Gln Glu Val Asp
 145 150 155 160
 Tyr Asp Pro Glu Thr Thr Cys Tyr Ile Arg Val Tyr Asn Val Tyr Val
 165 170 175
 Arg Met Asn Gly Ser Glu Ile Gln Tyr Lys Ile Leu Thr Gln Lys Glu
 180 185 190
 Asp Asp Cys Asp Glu Ile Gln Cys Gln Leu Ala Ile Pro Val Ser Ser
 195 200 205
 Leu Asn Ser Gln Tyr Cys Val Ser Ala Glu Gly Val Leu His Val Trp
 210 215 220
 Gly Val Thr Thr Glu Lys Ser Lys Glu Val Cys Ile Thr Ile Phe Asn
 225 230 235 240
 Ser Ser Ile Lys Gly Ser Leu Trp Ile Pro Val Val Ala Ala Leu Leu
 245 250 255
 Leu Phe Leu Val Leu Ser Leu Val Phe Ile Cys Phe Tyr Ile
 260 265 270

<210> 21
 <211> 1890
 <212> DNA
 <213> Mus musculus
 <220>
 <221> misc_feature
 <222> (1390)..(1390)

<223> n = a, t, c or g

<400> 21

gatcctgttg ggttttactc tactccctga ggacctcagc acatttgccc cccagccatg	60
gcttgtcttg gactccggag gtacaaagct caactgcagc tgccttctag gacttggcct	120
tttgtagccc tgctcactct tcttttcatc ccagtcttct ctgaagccat acaggtgacc	180
caaccttcag tgggtgttggc tagcagccat ggtgtcgcca gctttccatg tgaatattca	240
ccatcacaca aactgatga ggtccgggtg actgtgctgc ggcagacaaa tgaccaaag	300
actgaggtct gtgccacgac attcacagag aagaatacag tgggcttcct agattacccc	360
ttctgcagtg gtacctttaa tgaaagcaga gtgaacctca ccatccaagg actgagagct	420
gttgacacgg gactgtacct ctgcaagggt gaactcatgt acccacgcc atactttgtg	480
ggcatgggca acgggacgca gatttatgtc attgatccag aaccatgccc ggattctgac	540
ttcctccttt ggatccttgt cgcagttage ttggggttgt ttttttacag tttcctggtc	600
tctgctgttt ctttgagcaa gatgctaaag aaaagaagtc ctcttacaac aggggtctat	660
gtgaaaatgc ccccaacaga gccagaatgt gaaaagcaat ttcagcctta ttttattccc	720
atcaactgaa aggccgttta tgaagaagaa ggagcatact tcagtctcta aaagctgagg	780
caatttcaac tttccttttc tctccagcta tttttacctg tttgtatatt ttaaggagag	840
tatgcctctc tttaatagaa agctggagca aaattccaat taagcatact acaatttaaa	900
gctaaggagc agaacagaga gctgggatat ttctgttgtg tcagaacccat tttactaaaa	960
gcatcacttg gaagcagcat aaggatatag cattatggtg tggggccaag ggaacattag	1020
ggaatggcac agcccaaaga aaggaagggg gtgaaggaag agattatatt gtacacatct	1080
tgtattttacc tgagaggggg tgaaggaaga gattatattg tacacatctt gtattttacct	1140
gagagatgtt tatgacttaa ataattttta aatttttcat gctgttattt tctttaacaa	1200
tgtataatta cacgaaggtt taaacattta ttcacagaga ctatgtgaca tagccagtgg	1260
ttccaaaggt tgtagtgttc caagatgtat ttttaagtaa tattgtacat ggggtgttca	1320
tgtgctgttg tgtatttgct ggtggtttga atataaacac tatgtatcag tgtcgtccca	1380
cagtgggtcn tggggaggtt tggctgggga gcttaggaca ctaatccatc aggttggact	1440
cgaggtcctg caccaactgg cttggaaact agatgaggct gtcacagggc tcagttgcat	1500
aaaccgatgg tgatggagtg tgggctgggt ctttacactc attttatttt ttgtttctgc	1560
ttttgttttc ttcaatgatt tgcaaggaaa ccaaagctg gcagtgtttg tatgaacctg	1620
acagaacact gtcttcaagg aaatgcctca ttctgagac cagtaggttt gtttttttag	1680

gaagttccaa tactaggacc ccctacaagt actatggctc ctcgaaaaca caaagttaat 1740
gccacaggaa gcagcagatg gtaggatggg atgcacaaga gttcctgaaa actaacactg 1800
ttagtgtttt ttttttaact caatattttc catgaaaatg caaccacatg tataatattt 1860
ttaattaaat aaaagtttct tgtgattgtt 1890

<210> 22
<211> 223
<212> PRT
<213> Mus musculus

<400> 22

Met Ala Cys Leu Gly Leu Arg Arg Tyr Lys Ala Gln Leu Gln Leu Pro
1 5 10 15

Ser Arg Thr Trp Pro Phe Val Ala Leu Leu Thr Leu Leu Phe Ile Pro
20 25 30

Val Phe Ser Glu Ala Ile Gln Val Thr Gln Pro Ser Val Val Leu Ala
35 40 45

Ser Ser His Gly Val Ala Ser Phe Pro Cys Glu Tyr Ser Pro Ser His
50 55 60

Asn Thr Asp Glu Val Arg Val Thr Val Leu Arg Gln Thr Asn Asp Gln
65 70 75 80

Met Thr Glu Val Cys Ala Thr Thr Phe Thr Glu Lys Asn Thr Val Gly
85 90 95

Phe Leu Asp Tyr Pro Phe Cys Ser Gly Thr Phe Asn Glu Ser Arg Val
100 105 110

Asn Leu Thr Ile Gln Gly Leu Arg Ala Val Asp Thr Gly Leu Tyr Leu
115 120 125

Cys Lys Val Glu Leu Met Tyr Pro Pro Pro Tyr Phe Val Gly Met Gly
130 135 140

Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu Pro Cys Pro Asp Ser
145 150 155 160

Asp Phe Leu Leu Trp Ile Leu Val Ala Val Ser Leu Gly Leu Phe Phe
165 170 175

Tyr Ser Phe Leu Val Ser Ala Val Ser Leu Ser Lys Met Leu Lys Lys
180 185 190

Arg Ser Pro Leu Thr Thr Gly Val Tyr Val Lys Met Pro Pro Thr Glu
195 200 205

Pro Glu Cys Glu Lys Gln Phe Gln Pro Tyr Phe Ile Pro Ile Asn
210 215 220

<210> 23
<211> 672
<212> DNA
<213> Homo sapiens

<400> 23
atggcttgcc ttggatttca gcggcacaag gctcagctga acctggctgc caggacctgg 60
ccctgcactc tcctgttttt tcttctcttc atccctgtct tctgcaaagc aatgcacgtg 120
gccagcctg ctgtggtact ggccagcagc cgaggcatcg ccagctttgt gtgtgagtat 180
gcatctccag gcaaagccac tgaggtccgg gtgacagtgc ttcggcaggc tgacagccag 240
gtgactgaag tctgtgcggc aacctacatg acggggaatg agttgacctt cctagatgat 300
tccatctgca cgggcacctc cagtggaaat caagtgaacc tcactatcca aggactgagg 360
gccatggaca cgggactcta catctgcaag gtggagctca tgtaccacc gccatactac 420
ctgggcatag gcaacggaac ccagatttat gtaattgatc cagaaccgtg ccagattct 480
gacttctctc tctggatcct tgcagcagtt agttcggggt tgttttttta tagctttctc 540
ctcacagctg tttctttgag caaatgcta aagaaaagaa gccctcttac aacaggggtc 600
tatgtgaaaa tgccccaac agagccagaa tgtgaaaagc aatttcagcc ttattttatt 660
cccatcaatt ga 672

<210> 24
<211> 223
<212> PRT
<213> Homo sapiens

<400> 24

Met Ala Cys Leu Gly Phe Gln Arg His Lys Ala Gln Leu Asn Leu Ala
1 5 10 15

Ala Arg Thr Trp Pro Cys Thr Leu Leu Phe Phe Leu Leu Phe Ile Pro
20 25 30

Val Phe Cys Lys Ala Met His Val Ala Gln Pro Ala Val Val Leu Ala
35 40 45

Ser Ser Arg Gly Ile Ala Ser Phe Val Cys Glu Tyr Ala Ser Pro Gly
 50 55 60
 Lys Ala Thr Glu Val Arg Val Thr Val Leu Arg Gln Ala Asp Ser Gln
 65 70 75 80
 Val Thr Glu Val Cys Ala Ala Thr Tyr Met Thr Gly Asn Glu Leu Thr
 85 90 95
 Phe Leu Asp Asp Ser Ile Cys Thr Gly Thr Ser Ser Gly Asn Gln Val
 100 105 110
 Asn Leu Thr Ile Gln Gly Leu Arg Ala Met Asp Thr Gly Leu Tyr Ile
 115 120 125
 Cys Lys Val Glu Leu Met Tyr Pro Pro Pro Tyr Tyr Leu Gly Ile Gly
 130 135 140
 Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu Pro Cys Pro Asp Ser
 145 150 155 160
 Asp Phe Leu Leu Trp Ile Leu Ala Ala Val Ser Ser Gly Leu Phe Phe
 165 170 175
 Tyr Ser Phe Leu Leu Thr Ala Val Ser Leu Ser Lys Met Leu Lys Lys
 180 185 190
 Arg Ser Pro Leu Thr Thr Gly Val Tyr Val Lys Met Pro Pro Thr Glu
 195 200 205
 Pro Glu Cys Glu Lys Gln Phe Gln Pro Tyr Phe Ile Pro Ile Asn
 210 215 220

<210> 25
 <211> 960
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Mus musculus CTLA4-Mus musculus IgG3
 <220>
 <221> CDS
 <222> (1)..(960)
 <223>

atg Met 1	gct Ala	tgt Cys	ctt Leu	gga Gly 5	ctc Leu	cgg Arg	agg Arg	tac Tyr	aaa Lys 10	gct Ala	caa Gln	ctg Leu	cag Gln	ctg Leu 15	cct Pro	48
tct Ser	agg Arg	act Thr	tgg Trp 20	cct Pro	ttt Phe	gta Val	gcc Ala	ctg Leu 25	ctc Leu	act Thr	ctt Leu	ctt Leu	ttc Phe 30	atc Ile	cca Pro	96
gtc Val	ttc Phe	tct Ser 35	gaa Glu	gcc Ala	ata Ile	cag Gln	gtg Val 40	acc Thr	caa Gln	cct Pro	tca Ser	gtg Val 45	gtg Val	ttg Leu	gct Ala	144
agc Ser	agc Ser 50	cat His	ggt Gly	gtc Val	gcc Ala	agc Ser 55	ttt Phe	cca Pro	tgt Cys	gaa Glu	tat Tyr 60	tca Ser	cca Pro	tca Ser	cac His	192
aac Asn 65	act Thr	gat Asp	gag Glu	gtc Val	cgg Arg 70	gtg Val	act Thr	gtg Val	ctg Leu	cgg Arg 75	cag Gln	aca Thr	aat Asn	gac Asp	caa Gln 80	240
atg Met	act Thr	gag Glu	gtc Val	tgt Cys 85	gcc Ala	acg Thr	aca Thr	ttc Phe	aca Thr 90	gag Glu	aag Lys	aat Asn	aca Thr	gtg Val 95	ggc Gly	288
ttc Phe	cta Leu	gat Asp	tac Tyr 100	ccc Pro	ttc Phe	tgc Cys	agt Ser	ggc Gly 105	acc Thr	ttt Phe	aat Asn	gaa Glu	agc Ser 110	aga Arg	gtg Val	336
aac Asn	ctc Leu	acc Thr 115	atc Ile	caa Gln	gga Gly	ctg Leu	aga Arg 120	gct Ala	gtt Val	gac Asp	acg Thr	gga Gly 125	ctg Leu	tac Tyr	ctc Leu	384
tgc Cys	aag Lys 130	gtg Val	gaa Glu	ctc Leu	atg Met	tac Tyr 135	cca Pro	ccg Pro	cca Pro	tac Tyr	ttt Phe 140	gtg Val	ggc Gly	atg Met	ggc Gly	432
aac Asn 145	ggg Gly	acg Thr	cag Gln	att Ile	tat Tyr 150	gtc Val	att Ile	gat Asp	cca Pro	gaa Glu 155	cca Pro	tgc Cys	ccg Pro	gat Asp	tct Ser 160	480
gat Asp	cag Gln	gag Glu	cct Pro	aga Arg 165	ata Ile	ccc Pro	aag Lys	ccc Pro	agt Ser 170	acc Thr	ccc Pro	cca Pro	ggc Gly	tct Ser 175	tca Ser	528
tgc Cys	cca Pro	cct Pro	ggt Gly 180	aac Asn	atc Ile	ttg Leu	ggt Gly	gga Gly 185	cca Pro	tcc Ser	gtc Val	ttc Phe 190	atc Ile	ttc Phe	ccc Pro	576
cca Pro	aag Lys 195	ccc Pro	aag Lys	gat Asp	gca Ala	ctc Leu	atg Met 200	atc Ile	tcc Ser	cta Leu	acc Thr	ccc Pro 205	aag Lys	gtt Val	acg Thr	624
tgt Cys	gtg Val 210	gtg Val	gtg Val	gat Asp	gtg Val	agc Ser 215	gag Glu	gat Asp	gac Asp	cca Pro	gat Asp 220	gtc Val	cat His	gtc Val	agc Ser	672
tgg Trp 225	ttt Phe	gtg Val	gac Asp	aac Asn 230	aaa Lys 230	gaa Glu	gta Val	cac His	aca Thr 235	gcc Ala 235	tgg Trp	acg Thr	cag Gln	ccc Pro	cgt Arg 240	720

gaa gct cag tac aac agt acc ttc cga gtg gtc agt gcc ctc ccc atc	768
Glu Ala Gln Tyr Asn Ser Thr Phe Arg Val Val Ser Ala Leu Pro Ile	
245 250 255	
cag cac cag gac tgg atg agg ggc aag gag ttc aaa tgc aag gtc aac	816
Gln His Gln Asp Trp Met Arg Gly Lys Glu Phe Lys Cys Lys Val Asn	
260 265 270	
aac aaa gcc ctc cca gcc ccc atc gag aga acc atc tca aaa ccc aaa	864
Asn Lys Ala Leu Pro Ala Pro Ile Glu Arg Thr Ile Ser Lys Pro Lys	
275 280 285	
gga aga gcc cag aca cct caa gta tac acc ata ccc cca cct cgt gaa	912
Gly Arg Ala Gln Thr Pro Gln Val Tyr Thr Ile Pro Pro Pro Arg Glu	
290 295 300	
caa atg tcc aag aag aag gtt agt ctg acc tgc ctg gtc acc aac ttc	960
Gln Met Ser Lys Lys Lys Val Ser Leu Thr Cys Leu Val Thr Asn Phe	
305 310 315 320	

<210> 26
 <211> 320
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Mus musculus CTLA4-Mus musculus IgG3
 <400> 26

Met Ala Cys Leu Gly Leu Arg Arg Tyr Lys Ala Gln Leu Gln Leu Pro	
1 5 10 15	
Ser Arg Thr Trp Pro Phe Val Ala Leu Leu Thr Leu Leu Phe Ile Pro	
20 25 30	
Val Phe Ser Glu Ala Ile Gln Val Thr Gln Pro Ser Val Val Leu Ala	
35 40 45	
Ser Ser His Gly Val Ala Ser Phe Pro Cys Glu Tyr Ser Pro Ser His	
50 55 60	
Asn Thr Asp Glu Val Arg Val Thr Val Leu Arg Gln Thr Asn Asp Gln	
65 70 75 80	
Met Thr Glu Val Cys Ala Thr Thr Phe Thr Glu Lys Asn Thr Val Gly	
85 90 95	
Phe Leu Asp Tyr Pro Phe Cys Ser Gly Thr Phe Asn Glu Ser Arg Val	
100 105 110	

Asn Leu Thr Ile Gln Gly Leu Arg Ala Val Asp Thr Gly Leu Tyr Leu
 115 120 125

Cys Lys Val Glu Leu Met Tyr Pro Pro Pro Tyr Phe Val Gly Met Gly
 130 135 140

Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu Pro Cys Pro Asp Ser
 145 150 155 160

Asp Gln Glu Pro Arg Ile Pro Lys Pro Ser Thr Pro Pro Gly Ser Ser
 165 170 175

Cys Pro Pro Gly Asn Ile Leu Gly Gly Pro Ser Val Phe Ile Phe Pro
 180 185 190

Pro Lys Pro Lys Asp Ala Leu Met Ile Ser Leu Thr Pro Lys Val Thr
 195 200 205

Cys Val Val Val Asp Val Ser Glu Asp Asp Pro Asp Val His Val Ser
 210 215 220

Trp Phe Val Asp Asn Lys Glu Val His Thr Ala Trp Thr Gln Pro Arg
 225 230 235 240

Glu Ala Gln Tyr Asn Ser Thr Phe Arg Val Val Ser Ala Leu Pro Ile
 245 250 255

Gln His Gln Asp Trp Met Arg Gly Lys Glu Phe Lys Cys Lys Val Asn
 260 265 270

Asn Lys Ala Leu Pro Ala Pro Ile Glu Arg Thr Ile Ser Lys Pro Lys
 275 280 285

Gly Arg Ala Gln Thr Pro Gln Val Tyr Thr Ile Pro Pro Pro Arg Glu
 290 295 300

Gln Met Ser Lys Lys Lys Val Ser Leu Thr Cys Leu Val Thr Asn Phe
 305 310 315 320

<210> 27
 <211> 1004
 <212> DNA
 <213> Homo sapiens

<400> 27
 gcctcgctcg ggcgcccagt ggtcctgccg cctggtctca cctcgccatg gttcgtctgc

60


```

ctctgcagtg cgtcctctgg ggctgcttgc tgaccgctgt ccatccagaa ccacccactg 120
catgcagaga aaaacagtac ctaataaaca gtcagtgtgt ttctttgtgc cagccaggac 180
agaaactggg gagtgactgc acagagttca ctgaaacgga atgccttcct tgcggtgaaa 240
gcgaattcct agacacctgg aacagagaga cacactgcca ccagcacaaa tactgcgacc 300
ccaacctagg gcttcgggtc cagcagaagg gcacctcaga aacagacacc atctgcacct 360
gtgaagaagg ctggcactgt acgagtgagg cctgtgagag ctgtgtcctg caccgctcat 420
gctcgcccgg ctttggggtc aagcagattg ctacaggggt ttctgatacc atctgcgagc 480
cctgcccagt cggcttcttc tccaatgtgt catctgcttt cgaaaaatgt cacccttgga 540
caagctgtga gaccaaagac ctggttgtgc aacaggcagg cacaacaag actgatgttg 600
tctgtggtcc ccaggatcgg ctgagagccc tgggtggtgat ccccatcatc ttcgggatcc 660
tgtttgccat cctcttggtg ctggtcttta tcaaaaagggt ggccaagaag ccaaccaata 720
aggcccccca cccaagcag gaaccccagg agatcaatth tcccgacgat cttcctggct 780
ccaacactgc tgctccagtg caggagactt tacatggatg ccaaccggtc acccaggagg 840
atggcaaaga gagtcgcata tcagtgcagg agagacagtg aggctgcacc caccaggag 900
tgtggccacg tgggcaaaca ggcagttggc cagagagcct ggtgctgctg ctgcaggggt 960
gcaggcagaa gcggggagct atgccagtc agtgccagcc cctc 1004

```

```

<210> 28
<211> 277
<212> PRT
<213> Homo sapiens

```

```
<400> 28
```

```

Met Val Arg Leu Pro Leu Gln Cys Val Leu Trp Gly Cys Leu Leu Thr
1          5          10          15

```

```

Ala Val His Pro Glu Pro Pro Thr Ala Cys Arg Glu Lys Gln Tyr Leu
20          25          30

```

```

Ile Asn Ser Gln Cys Cys Ser Leu Cys Gln Pro Gly Gln Lys Leu Val
35          40          45

```

```

Ser Asp Cys Thr Glu Phe Thr Glu Thr Glu Cys Leu Pro Cys Gly Glu
50          55          60

```

```

Ser Glu Phe Leu Asp Thr Trp Asn Arg Glu Thr His Cys His Gln His
65          70          75          80

```

Lys Tyr Cys Asp Pro Asn Leu Gly Leu Arg Val Gln Gln Lys Gly Thr
85 90 95

Ser Glu Thr Asp Thr Ile Cys Thr Cys Glu Glu Gly Trp His Cys Thr
100 105 110

Ser Glu Ala Cys Glu Ser Cys Val Leu His Arg Ser Cys Ser Pro Gly
115 120 125

Phe Gly Val Lys Gln Ile Ala Thr Gly Val Ser Asp Thr Ile Cys Glu
130 135 140

Pro Cys Pro Val Gly Phe Phe Ser Asn Val Ser Ser Ala Phe Glu Lys
145 150 155 160

Cys His Pro Trp Thr Ser Cys Glu Thr Lys Asp Leu Val Val Gln Gln
165 170 175

Ala Gly Thr Asn Lys Thr Asp Val Val Cys Gly Pro Gln Asp Arg Leu
180 185 190

Arg Ala Leu Val Val Ile Pro Ile Ile Phe Gly Ile Leu Phe Ala Ile
195 200 205

Leu Leu Val Leu Val Phe Ile Lys Lys Val Ala Lys Lys Pro Thr Asn
210 215 220

Lys Ala Pro His Pro Lys Gln Glu Pro Gln Glu Ile Asn Phe Pro Asp
225 230 235 240

Asp Leu Pro Gly Ser Asn Thr Ala Ala Pro Val Gln Glu Thr Leu His
245 250 255

Gly Cys Gln Pro Val Thr Gln Glu Asp Gly Lys Glu Ser Arg Ile Ser
260 265 270

Val Gln Glu Arg Gln
275

<210> 29

<211> 1890

<212> DNA

<213> Homo sapiens

<400> 29

aaacagagag agatagagaa agagaaagac agaggtgttt cccttagcta tggaaactct

60

ataagagaga tccagcttgc ctcctcttga gcagtcagca acaggggtccc gtccttgaca	120
cctcagcctc tacaggactg agaagaagta aaaccgtttg ctggggctgg cctgactcac	180
cagctgccat gcagcagccc ttcaattacc catatcccca gatctactgg gtggacagca	240
gtgccagctc tccctggggc cctccaggca cagttcttcc ctgtccaacc tctgtgcca	300
gaaggcctgg tcaaaggagg ccaccaccac caccgccacc gccaccacta ccacctccgc	360
cgccgccgcc accactgcct ccaactaccgc tgccaccct gaagaagaga ggaaccaca	420
gcacaggcct gtgtctcctt gtgatgtttt tcatggttct ggttgccctg gtaggattgg	480
gcctggggat gtttcagctc ttccacctac agaaggagct ggcagaactc cgagagtcta	540
ccagccagat gcacacagca tcatcttttg agaagcaa ataggccacccc agtccacccc	600
ctgaaaaaaaa ggagctgagg aaagtggccc atttaacagg caagtccaac tcaaggtcca	660
tgccctctgga atgggaagac acctatggaa ttgtcctgct ttctggagtg aagtataaga	720
aggggtggcct tgtgatcaat gaaactgggc tgtactttgt atattccaaa gtatacttcc	780
gggggtcaatc ttgcaacaac ctgcccctga gccacaaggt ctacatgagg aactctaagt	840
atccccagga tctggtgatg atggagggga agatgatgag ctactgcact actgggcaga	900
tgtgggcccc cagcagctac ctgggggacag tgttcaatct taccagtgt gatcatttat	960
atgtcaacgt atctgagctc tctctggtca attttgagga atctcagacg tttttcggct	1020
tatataagct ctaagagaag cactttggga ttctttccat tatgattctt tgttacaggc	1080
accgagaatg ttgtattcag tgagggtctt cttacatgca tttgaggtca agtaagaaga	1140
catgaaccaa gtggaccttg agaccacagg gttcaaatg tctgtagctc ctcaactcac	1200
ctaattgttta tgagccagac aaatggagga atatgacgga agaacataga actctgggct	1260
gccatgtgaa gagggagaag catgaaaaag cagctaccca ggtgttctac actcatctta	1320
gtgcctgaga gtatttaggc agattgaaaa ggacacctt taactcacct ctcaaggtgg	1380
gccttgctac ctcaaggggg actgtctttc agatacatgg ttgtgacctg aggatttaag	1440
ggatggaaaa ggaagactag aggcttgc atataagctaa agaggctgaa agaggccaat	1500
gccccactgg cagcatcttc acttctaaat gcatactctg agccatcggt gaaactaaca	1560
gataagcaag agagatgttt tggggactca tttcattcct aacacagcat gtgtatttcc	1620
agtgccaat gtagggggtgt gtgtgtgtgt gtgtgtgtgt gtgtatgact aaagagagaa	1680
tgtagatatt gtgaagtaca tattaggaaa atatgggttg catttggtca agattttgaa	1740
tgcttctga caatcaactc taatagtgt taaaaatcat tgattgtcag ctactaatga	1800
tgttttctta taatataata aatatttatg tagatgtgca tttttgtgaa atgaaaacat	1860

gtaataaaaa gtatatgtta ggatacaaat

1890

<210> 30
<211> 281
<212> PRT
<213> Homo sapiens

<400> 30

Met Gln Gln Pro Phe Asn Tyr Pro Tyr Pro Gln Ile Tyr Trp Val Asp
1 5 10 15

Ser Ser Ala Ser Ser Pro Trp Ala Pro Pro Gly Thr Val Leu Pro Cys
20 25 30

Pro Thr Ser Val Pro Arg Arg Pro Gly Gln Arg Arg Pro Pro Pro Pro
35 40 45

Pro Pro Pro Pro Pro Leu Pro Pro Pro Pro Pro Pro Pro Pro Leu Pro
50 55 60

Pro Leu Pro Leu Pro Pro Leu Lys Lys Arg Gly Asn His Ser Thr Gly
65 70 75 80

Leu Cys Leu Leu Val Met Phe Phe Met Val Leu Val Ala Leu Val Gly
85 90 95

Leu Gly Leu Gly Met Phe Gln Leu Phe His Leu Gln Lys Glu Leu Ala
100 105 110

Glu Leu Arg Glu Ser Thr Ser Gln Met His Thr Ala Ser Ser Leu Glu
115 120 125

Lys Gln Ile Gly His Pro Ser Pro Pro Pro Glu Lys Lys Glu Leu Arg
130 135 140

Lys Val Ala His Leu Thr Gly Lys Ser Asn Ser Arg Ser Met Pro Leu
145 150 155 160

Glu Trp Glu Asp Thr Tyr Gly Ile Val Leu Leu Ser Gly Val Lys Tyr
165 170 175

Lys Lys Gly Gly Leu Val Ile Asn Glu Thr Gly Leu Tyr Phe Val Tyr
180 185 190

Ser Lys Val Tyr Phe Arg Gly Gln Ser Cys Asn Asn Leu Pro Leu Ser
195 200 205

His Lys Val Tyr Met Arg Asn Ser Lys Tyr Pro Gln Asp Leu Val Met
 210 215 220

Met Glu Gly Lys Met Met Ser Tyr Cys Thr Thr Gly Gln Met Trp Ala
 225 230 235 240

Arg Ser Ser Tyr Leu Gly Ala Val Phe Asn Leu Thr Ser Ala Asp His
 245 250 255

Leu Tyr Val Asn Val Ser Glu Leu Ser Leu Val Asn Phe Glu Glu Ser
 260 265 270

Gln Thr Phe Phe Gly Leu Tyr Lys Leu
 275 280

<210> 31
 <211> 1803
 <212> DNA
 <213> Homo sapiens

<400> 31
 tgccaccttc tctgccagaa gataccattt caactttaac acagcatgat cgaaacatac 60
 aaccaaactt ctccccgatac tgcggccact ggactgccca tcagcatgaa aatttttatg 120
 tatttactta ctgtttttct tatcaccagc atgattgggt cagcactttt tgctgtgtat 180
 cttcatagaa ggttggacaa gatagaagat gaaaggaatc ttcatagaaga ttttgtattc 240
 atgaaaacga tacagagatg caacacagga gaaagatcct tacccttact gaactgtgag 300
 gagattaaaa gccagtttga aggcctttgtg aaggatataa tgttaaacia agaggagacg 360
 aagaaagaaa acagctttga aatgcaaaaa ggtgatcaga atcctcaaata tgcggcacat 420
 gtcataagtg aggccagcag taaaacaaca tctgtgttac agtgggctga aaaaggatac 480
 tacaccatga gcaacaactt ggtaaccctg gaaaatggga aacagctgac cgttaaaaga 540
 caaggactct attatatcta tgcccaagtc accttctgtt ccaatcgga agcttcgagt 600
 caagctccat ttatagccag cctctgccta aagtcccccg gtagattcga gagaatctta 660
 ctcagagctg caaatacca cagttccgcc aaaccttgcg ggcaacaatc cattcacttg 720
 ggaggagtat ttgaattgca accaggtgct tcggtgtttg tcaatgtgac tgatccaagc 780
 caagtgaagg atggcactgg cttcacgtcc tttggcttac tcaaactctg aacagtgtca 840
 ccttgcaaggc tgtggtggag ctgacgtgg gagtcttcat aatacagcac agcggttaag 900
 cccacccctt gttaactgcc tatttataac cctaggatcc tccttatgga gaactattta 960

```

ttatacactc caaggcatgt agaactgtaa taagtgaatt acaggtcaca tgaaaccaa 1020
acggggccctg ctccataaga gcttatatat ctgaagcagc aacccactg atgcagacat 1080
ccagagagtc ctatgaaaag acaaggccat tatgcacagg ttgaattctg agtaaacagc 1140
agataacttg ccaagttcag ttttgtttct ttgcgtgcag tgtctttcca tggataatgc 1200
at ttgattta tcagtgaaga tgcagaaggg aaatggggag cctcagctca cattcagtta 1260
tggttgactc tgggttctta tggccttggt ggagggggcc aggctctaga acgtctaaca 1320
cagtggagaa ccgaaacccc ccccccccc cgcaccct ctggacagt tattcattct 1380
ctttcaatct ctctctctcc atctctctct ttcagtctct ctctctcaac ctctttcttc 1440
caatctctct ttctcaatct ctctgtttcc ctttgtcagt ctcttccctc cccagttctc 1500
tcttctcaat ccccttttct aacacacaca cacacacaca cacacacaca cacacacaca 1560
cacacacaca cagagtcagg ccgttgctag tcagttctct tctttccacc ctgtccctat 1620
ctctaccact atagatgagg gtgaggagta gggagtgag ccctgagcct gccactcct 1680
cattacgaaa tgactgtatt taaaggaaat ctattgtatc tacctgcagt ctccattggt 1740
tccagagtga acttgtaatt atcttggtat ttatTTTTTg aataataaag acctcttaac 1800
att 1803

```

```

<210> 32
<211> 261
<212> PRT
<213> Homo sapiens

```

```

<400> 32

```

```

Met Ile Glu Thr Tyr Asn Gln Thr Ser Pro Arg Ser Ala Ala Thr Gly
1           5           10           15

```

```

Leu Pro Ile Ser Met Lys Ile Phe Met Tyr Leu Leu Thr Val Phe Leu
          20           25           30

```

```

Ile Thr Gln Met Ile Gly Ser Ala Leu Phe Ala Val Tyr Leu His Arg
          35           40           45

```

```

Arg Leu Asp Lys Ile Glu Asp Glu Arg Asn Leu His Glu Asp Phe Val
          50           55           60

```

```

Phe Met Lys Thr Ile Gln Arg Cys Asn Thr Gly Glu Arg Ser Leu Ser
65           70           75           80

```

```

Leu Leu Asn Cys Glu Glu Ile Lys Ser Gln Phe Glu Gly Phe Val Lys
          85           90           95

```

Asp Ile Met Leu Asn Lys Glu Glu Thr Lys Lys Glu Asn Ser Phe Glu
100 105 110

Met Gln Lys Gly Asp Gln Asn Pro Gln Ile Ala Ala His Val Ile Ser
115 120 125

Glu Ala Ser Ser Lys Thr Thr Ser Val Leu Gln Trp Ala Glu Lys Gly
130 135 140

Tyr Tyr Thr Met Ser Asn Asn Leu Val Thr Leu Glu Asn Gly Lys Gln
145 150 155 160

Leu Thr Val Lys Arg Gln Gly Leu Tyr Tyr Ile Tyr Ala Gln Val Thr
165 170 175

Phe Cys Ser Asn Arg Glu Ala Ser Ser Gln Ala Pro Phe Ile Ala Ser
180 185 190

Leu Cys Leu Lys Ser Pro Gly Arg Phe Glu Arg Ile Leu Leu Arg Ala
195 200 205

Ala Asn Thr His Ser Ser Ala Lys Pro Cys Gly Gln Gln Ser Ile His
210 215 220

Leu Gly Gly Val Phe Glu Leu Gln Pro Gly Ala Ser Val Phe Val Asn
225 230 235 240

Val Thr Asp Pro Ser Gln Val Ser His Gly Thr Gly Phe Thr Ser Phe
245 250 255

Gly Leu Leu Lys Leu
260

<210> 33
<211> 1212
<212> DNA
<213> Mus musculus

<400> 33
gcgcactgga gctcatcgca gagcccagcg acaggcaggg gaccacaggg ggccacccga 60
ggcggctggg gccatggccg gggcgcgctg cttggggaaa actgcggatg ccgatgaatg 120
gtgcgacagc ggccctgggct ctctaggtcc cgacgcagcg gctcccggag gaccaggtct 180
gggcgcagag cttggcccag agctgtcgtg ggcgcacctta gtctttggct acgtcactga 240

```

ggatggggac acagccctgc acttggtgt gattcatcag catgagccct tcctggattt 300
cctcctgggc ttttccgccg gccacgagta ccttgacctg cagaatgacc taggccaaac 360
agccctgcat ctagcagcca tccttgggga ggcatctaca gtagagaagt tgtatgcagc 420
cgggtgcagga gtgttggtgg ctgagagagg gggccacacg gcattgcact tggcctgccg 480
ggtcagggca cacacgtgcg cgtgcgtact gctccagccc cgtcccagcc acccaagaga 540
tgctcagat acctacctca ctgagagcca ggactgtacc ccagacacca gccatgcccc 600
tgctgccgtg gattcccaac ccaaccaga gaacgaagag gagccgcgtg atgaagactg 660
gaggctacaa ctagaagctg aaaactatga tggccatacc ccaactccatg tagctgtcat 720
ccacaaagat gcagagatgg tccggctgct cagggatgcc ggagccgacc tcaataaacc 780
ggagcctacg tgtggccgga cccctctgca cctggcagta gaagcccagg cagccagcgt 840
gctggaactt ctctgaaag ccggtgctga cccaccgcc cgcatgtatg ggggccgcac 900
cccgttggc agtgccctgc tccggcccaa cccatcctt gccgcctcc tccgtgcaca 960
tgggggccct gaacctgagg acgaggacga taagcttagc ccttgacgca gcagcggcag 1020
cgacagtgc agtgacaaca gagatgaggg cgatgaatat gatgacatcg tggttcacag 1080
tggcaggagc caaaaccgac aaccgccttc cccggcatcc aaacctcttc ctgatgacct 1140
caaccctgcc tgacttaagt gctaataatta atataatttc caacttaata aaattgcaga 1200
cctgacaacc ag 1212

```

```

<210> 34
<211> 359
<212> PRT
<213> Mus musculus

```

```

<400> 34

```

```

Met Ala Gly Val Ala Cys Leu Gly Lys Thr Ala Asp Ala Asp Glu Trp
1          5          10          15

```

```

Cys Asp Ser Gly Leu Gly Ser Leu Gly Pro Asp Ala Ala Ala Pro Gly
20          25          30

```

```

Gly Pro Gly Leu Gly Ala Glu Leu Gly Pro Glu Leu Ser Trp Ala Pro
35          40          45

```

```

Leu Val Phe Gly Tyr Val Thr Glu Asp Gly Asp Thr Ala Leu His Leu
50          55          60

```

```

Ala Val Ile His Gln His Glu Pro Phe Leu Asp Phe Leu Leu Gly Phe
65          70          75          80

```


Ser Ala Gly His Glu Tyr Leu Asp Leu Gln Asn Asp Leu Gly Gln Thr
 85 90 95

Ala Leu His Leu Ala Ala Ile Leu Gly Glu Ala Ser Thr Val Glu Lys
 100 105 110

Leu Tyr Ala Ala Gly Ala Gly Val Leu Val Ala Glu Arg Gly Gly His
 115 120 125

Thr Ala Leu His Leu Ala Cys Arg Val Arg Ala His Thr Cys Ala Cys
 130 135 140

Val Leu Leu Gln Pro Arg Pro Ser His Pro Arg Asp Ala Ser Asp Thr
 145 150 155 160

Tyr Leu Thr Gln Ser Gln Asp Cys Thr Pro Asp Thr Ser His Ala Pro
 165 170 175

Ala Ala Val Asp Ser Gln Pro Asn Pro Glu Asn Glu Glu Glu Pro Arg
 180 185 190

Asp Glu Asp Trp Arg Leu Gln Leu Glu Ala Glu Asn Tyr Asp Gly His
 195 200 205

Thr Pro Leu His Val Ala Val Ile His Lys Asp Ala Glu Met Val Arg
 210 215 220

Leu Leu Arg Asp Ala Gly Ala Asp Leu Asn Lys Pro Glu Pro Thr Cys
 225 230 235 240

Gly Arg Thr Pro Leu His Leu Ala Val Glu Ala Gln Ala Ala Ser Val
 245 250 255

Leu Glu Leu Leu Leu Lys Ala Gly Ala Asp Pro Thr Ala Arg Met Tyr
 260 265 270

Gly Gly Arg Thr Pro Leu Gly Ser Ala Leu Leu Arg Pro Asn Pro Ile
 275 280 285

Leu Ala Arg Leu Leu Arg Ala His Gly Ala Pro Glu Pro Glu Asp Glu
 290 295 300

Asp Asp Lys Leu Ser Pro Cys Ser Ser Ser Gly Ser Asp Ser Asp Ser
 305 310 315 320

Asp Asn Arg Asp Glu Gly Asp Glu Tyr Asp Asp Ile Val Val His Ser
 325 330 335

Gly Arg Ser Gln Asn Arg Gln Pro Pro Ser Pro Ala Ser Lys Pro Leu
 340 345 350

Pro Asp Asp Pro Asn Pro Ala
 355

<210> 35
 <211> 1769
 <212> DNA
 <213> Homo sapiens

<400> 35
 cctcactgac tataaaagaa tagagaagga agggcttcag tgaccggctg cctggctgac 60
 ttacagcagt cagactctga caggatcatg gctatgatgg aggtccaggg gggacccagc 120
 ctgggacaga cctgcgtgct gatcgtgatc ttacagtgct tcctgcagtc tctctgtgtg 180
 gctgtaactt acgtgtactt taccaacgag ctgaagcaga tgcaggacaa gtactccaaa 240
 agtggcattg cttgtttctt aaaagaagat gacagttatt gggaccccaa tgacgaagag 300
 agtatgaaca gccctgctg gcaagtcaag tggcaactcc gtcagctcgt tagaaagatg 360
 attttgagaa cctctgagga aaccatttct acagttcaag aaaagcaaca aaatatttct 420
 ccctagtga gagaaagagg tcctcagaga gtagcagctc acataactgg gaccagagga 480
 agaagcaaca cattgtcttc tccaaactcc aagaatgaaa aggctctggg ccgcaaaata 540
 aactcctggg aatcatcaag gagtgggcat tcattcctga gcaacttgca cttgaggaat 600
 ggtgaactgg tcatccatga aaaagggttt tactacatct attcccaaac atactttcga 660
 tttcaggagg aaataaaaga aaacacaaag aacgacaaac aaatgggtcca atatatttac 720
 aaatacacia gttatcctga ccctatatattg ttgatgaaaa gtgctagaaa tagttgttgg 780
 tctaaagatg cagaatatgg actctattcc atctatcaag ggggaatatt tgagcttaag 840
 gaaaatgaca gaatttttgt ttctgtaaca aatgagcact tgatagacat ggaccatgaa 900
 gccagttttt tcggggcctt tttagttggc taactgacct ggaaagaaaa agcaataacc 960
 tcaaagtgac tattcagttt tcaggatgat acactatgaa gatgtttcaa aaaatctgac 1020
 caaaacaaac aaacagaaaa cagaaaacaa aaaaacctct atgcaatctg agtagagcag 1080
 ccacaaccaa aaaattctac aacacacact gttctgaaag tgactcactt atcccaagaa 1140
 aatgaaattg ctgaaagatc tttcaggact ctacctcata tcagtttgct agcagaaatc 1200

tagaagactg tcagcttcca aacattaatg caatgggttaa catcttctgt ctttataatc 1260
 tactccttgt aaagactgta gaagaaagcg caacaatcca tctctcaagt agtgtatcac 1320
 agtagtagcc tccagggtttc cttaaggggac aacatcctta agtcaaaaga gagaagaggc 1380
 accactaaaa gatcgcagtt tgcttggtgc agtgggtcac acctgtaatc ccaacatttt 1440
 gggaacccaa ggtggggtaga tcacgagatc aagagatcaa gaccatagtg accaacatag 1500
 tgaaacccca tctctactga aagtgcacaaa attagctggg tgtgttgga catgcctgta 1560
 gtcccagcta cttgagaggc tgaggcagga gaatcgtttg aaccggggag gcagagggtg 1620
 cagtgtggtg agatcatgcc actacactcc agcctggcga cagagcgaga cttgggtttca 1680
 aaaaaaaaaa aaaaaaaaaa cttcagtaag tacgtgttat ttttttcaat aaaattctat 1740
 tacagtatgt caaaaaaaaaa aaaaaaaaaa 1769

<210> 36
 <211> 281
 <212> PRT
 <213> Homo sapiens

<400> 36

Met Ala Met Met Glu Val Gln Gly Gly Pro Ser Leu Gly Gln Thr Cys
 1 5 10 15

Val Leu Ile Val Ile Phe Thr Val Leu Leu Gln Ser Leu Cys Val Ala
 20 25 30

Val Thr Tyr Val Tyr Phe Thr Asn Glu Leu Lys Gln Met Gln Asp Lys
 35 40 45

Tyr Ser Lys Ser Gly Ile Ala Cys Phe Leu Lys Glu Asp Asp Ser Tyr
 50 55 60

Trp Asp Pro Asn Asp Glu Glu Ser Met Asn Ser Pro Cys Trp Gln Val
 65 70 75 80

Lys Trp Gln Leu Arg Gln Leu Val Arg Lys Met Ile Leu Arg Thr Ser
 85 90 95

Glu Glu Thr Ile Ser Thr Val Gln Glu Lys Gln Gln Asn Ile Ser Pro
 100 105 110

Leu Val Arg Glu Arg Gly Pro Gln Arg Val Ala Ala His Ile Thr Gly
 115 120 125

Thr Arg Gly Arg Ser Asn Thr Leu Ser Ser Pro Asn Ser Lys Asn Glu
 130 135 140

Lys Ala Leu Gly Arg Lys Ile Asn Ser Trp Glu Ser Ser Arg Ser Gly
 145 150 155 160

His Ser Phe Leu Ser Asn Leu His Leu Arg Asn Gly Glu Leu Val Ile
 165 170 175

His Glu Lys Gly Phe Tyr Tyr Ile Tyr Ser Gln Thr Tyr Phe Arg Phe
 180 185 190

Gln Glu Glu Ile Lys Glu Asn Thr Lys Asn Asp Lys Gln Met Val Gln
 195 200 205

Tyr Ile Tyr Lys Tyr Thr Ser Tyr Pro Asp Pro Ile Leu Leu Met Lys
 210 215 220

Ser Ala Arg Asn Ser Cys Trp Ser Lys Asp Ala Glu Tyr Gly Leu Tyr
 225 230 235 240

Ser Ile Tyr Gln Gly Gly Ile Phe Glu Leu Lys Glu Asn Asp Arg Ile
 245 250 255

Phe Val Ser Val Thr Asn Glu His Leu Ile Asp Met Asp His Glu Ala
 260 265 270

Ser Phe Phe Gly Ala Phe Leu Val Gly
 275 280

<210> 37
 <211> 4150
 <212> DNA
 <213> Homo sapiens

<400> 37
 tccggcccca gagaactcag cctcattcct gctttaaaat ctctcggcca cctttgatga 60
 ggggactggg cagttctaga cagtcccgaa gttctcaagg cacaggtctc ttcctggttt 120
 gactgtcctt accccgggga ggcagtgcag ccagctgcaa gcccacagt gaagaacatc 180
 tgagctcaaa tccagataag tgacataagt gacctgcttt gtaaagccat agagatggcc 240
 tgtccttgga aatttctgtt caagaccaa ttccaccagt atgcaatgaa tggggaaaaa 300
 gacatcaaca acaatgtgga gaaagcccc tgtgccacct ccagtccagt gacacaggat 360
 gaccttcagt atcacaacct cagcaagcag cagaatgagt cccgcagcc cctcgtggag 420

acgggaaaga agtctccaga atctctgggtc aagctggatg caacccatt gtcctcccca	480
cggcatgtga ggatcaaaaa ctggggcagc gggatgactt tccaagacac acttcaccat	540
aaggccaaag ggattttaac ttgcagggtcc aaatcttgcc tgggggtccat tatgactccc	600
aaaagtttga ccagaggacc cagggacaag cctaccctc cagatgagct tctacctcaa	660
gctatcgaat ttgtcaacca atattacggc tccttcaaag aggcaaaaat agaggaacat	720
ctggccaggg tggaagcggg aacaaaggag atagaaaca caggaacct ccaactgacg	780
ggagatgagc tcattcttgc caccaagcag gcctggcgca atgccccacg ctgcattggg	840
aggatccagt ggtccaacct gcagggtctt gatgcccgca gctgttccac tgcccgggaa	900
atgtttgaac acatctgcag acacgtgcgt tactccacca acaatggcaa catcagggtcg	960
gccatcacg tgttccccca gcggagtgat ggcaagcacg acttccgggt gtggaatgct	1020
cagctcatcc actatgctgg ctaccagatg ccagatggca gcatcagagg ggaccctgcc	1080
aacgtggaat tcaactcagct gtgcacgcac ctgggctgga agcccaagta cggccgcttc	1140
gatgtggtcc ccctggtcct gcaggccaat ggccgtgacc ctgagctctt cgaaatccca	1200
cctgaccttg tgcttgaggt ggccatggaa catcccaa atcagagtgggt tcgggaactg	1260
gagctaaagt ggtacgcct gcctgcagtg gccaacatgc tgcttgaggt gggcggcctg	1320
gagttcccag ggtgccctt caatggctgg tacatgggca cagagatcgg agtccgggac	1380
ttctgtgacg tccagcgcta caacatcctg gaggaagtgg gcaggagaat gggcctggaa	1440
acgcacaagc tggcctcgct ctggaaagac caggctgtcg ttgagatcaa cattgctgtg	1500
ctccatagtt ttcagaagca gaatgtgacc atcatggacc accactcgac tgcagaatcc	1560
ttcatgaagt acatgcagaa tgaataccgg tcccgctggg gctgcccggc agactggatt	1620
tggctggtcc ctcccatgtc tgggagcatc acccccggtg ttaccagga gatgctgaac	1680
tacgtcctgt cccctttcta ctactatcag gtagaggcct ggaaaacca tgtctggcag	1740
gacgagaagc ggagacccaa gagaagagag attccattga aagtcttggt caaagctgtg	1800
ctctttgcct gtatgctgat gcgcaagaca atggcgctcc gagtcagagt caccatctc	1860
tttgctacag agacaggaaa atcagaggcg ctggcctggg acctgggggc cttattcagc	1920
tgtgccttca accccaaggt tgtctgcatg gataagtaca ggctgagctg cctggaggag	1980
gaacggctgc tgttggtggt gaccagtacg tttggcaatg gagactgcc tggcaatgga	2040
gagaaactga agaaatcgct cttcatgctg aaagagctca acaacaaatt caggtagct	2100
gtgtttggcc tcggctccag catgtacct cggttctgcg cctttgctca tgacattgat	2160
cagaagctgt cccacctggg ggccctctcag ctacccccga tgggagaagg ggatgagctc	2220

agtgggcagg	aggacgcctt	ccgcagctgg	gccgtgcaaa	ccttcaaggc	agcctgtgag	2280
acgtttgatg	tccgaggcaa	acagcacatt	cagatcccca	agctctacac	ctccaatgtg	2340
acctgggacc	cgcaccacta	caggctcgtg	caggactcac	agcctttgga	cctcagcaaa	2400
gccctcagca	gcatgcatgc	caagaacgtg	ttcaccatga	ggctcaaata	tcggcagaat	2460
ctacaaagtc	cgacatccag	ccgtgccacc	atcctgggtg	aactctcctg	tgaggatggc	2520
caaggcctga	actacctgcc	gggggagcac	cttggggttt	gtccaggcaa	ccagccggcc	2580
ctgggtccaag	gtatcctgga	gcgagtgggt	gatggcccca	cacccaccca	gacagtgcgc	2640
ctggaggccc	tggatgagag	tggcagctac	tgggtcagtg	acaagaggct	gccccctgc	2700
tcactcagcc	aggccctcac	ctacttcctg	gacatcacca	cacccccaac	ccagctgctg	2760
ctccaaaagc	tggcccaggt	ggccacagaa	gagcctgaga	gacagaggct	ggaggccctg	2820
tgccagccct	cagagtacag	caagtggaag	ttcaccaaca	gccccacatt	cctggagggtg	2880
ctagaggagt	tcccgctcct	gcgggtgtct	gctggcttcc	tgctttccca	gctccccatt	2940
ctgaagccca	ggttctactc	catcagctcc	tcccgggatc	acacgcccac	agagatccac	3000
ctgactgtgg	ccgtggtcac	ctaccacacc	cgagatggcc	agggtcccct	gcaccacggc	3060
gtctgcagca	catggctcaa	cagcctgaag	ccccagacc	cagtgccctg	ctttgtgcgg	3120
aatgccagcg	gcttccacct	ccccgaggat	ccctcccatc	cttgcatcct	catcgggcct	3180
ggcacaggca	tcgcgcctt	ccgcagtttc	tggcagcaac	ggctccatga	ctcccagcac	3240
aaggagtg	ggggaggccg	catgaccttg	gtgtttgggt	gccgcccggc	agatgaggac	3300
cacatctacc	aggaggagat	gctggagatg	gccagaagg	gggtgctgca	tcgggtgcac	3360
acagcctatt	ccgcctgcc	tggcaagccc	aaggcttatg	ttcaggacat	cctgcggcag	3420
cagctggcca	gcgagggtg	ccgtgtgctc	cacaaggagc	caggccacct	ctatgtttgc	3480
ggggatgtgc	gcatggcccg	ggacgtggcc	cacacctga	agcagctgg	ggctgccaag	3540
ctgaaattga	atgaggagca	ggtcgaggac	tatttctttc	agctcaagag	ccagaagcgc	3600
tatcacgaag	atatctttgg	tgtgtatatt	ccttacgagg	cgaagaagga	caggggtggc	3660
gtgcagccca	gcagcctgga	gatgtcagcg	ctctgagggc	ctacaggagg	ggttaaagct	3720
gccggcacag	aacttaagga	tggagccagc	tctgcattat	ctgaggtcac	agggcctggg	3780
gagatggagg	aaagtgatat	ccccagcct	caagtcttat	ttcctcaacg	ttgctcccca	3840
tcaagccctt	tacttgacct	cctaacaagt	agcaccctgg	attgatcgga	gcctcctctc	3900
tcaaaactgg	gcctccctgg	tcccttggag	acaaaatctt	aaatgccagg	cctggcgagt	3960
gggtgaaaga	tggaacttgc	tgtgtagtgc	accacttcaa	gtgaccacca	ggagggtgcta	4020

tcgcaccact gtgtatttaa ctgccttgtg tacagttatt tatgcctctg tatttaaaaa 4080
 actaacacccc agtctgttcc ccatggccac ttgggtcttc cctgtatgat tccttgatgg 4140
 agatatattac 4150

<210> 38
 <211> 1153
 <212> PRT
 <213> Homo sapiens
 <400> 38

Met Ala Cys Pro Trp Lys Phe Leu Phe Lys Thr Lys Phe His Gln Tyr
 1 5 10 15

Ala Met Asn Gly Glu Lys Asp Ile Asn Asn Asn Val Glu Lys Ala Pro
 20 25 30

Cys Ala Thr Ser Ser Pro Val Thr Gln Asp Asp Leu Gln Tyr His Asn
 35 40 45

Leu Ser Lys Gln Gln Asn Glu Ser Pro Gln Pro Leu Val Glu Thr Gly
 50 55 60

Lys Lys Ser Pro Glu Ser Leu Val Lys Leu Asp Ala Thr Pro Leu Ser
 65 70 75 80

Ser Pro Arg His Val Arg Ile Lys Asn Trp Gly Ser Gly Met Thr Phe
 85 90 95

Gln Asp Thr Leu His His Lys Ala Lys Gly Ile Leu Thr Cys Arg Ser
 100 105 110

Lys Ser Cys Leu Gly Ser Ile Met Thr Pro Lys Ser Leu Thr Arg Gly
 115 120 125

Pro Arg Asp Lys Pro Thr Pro Pro Asp Glu Leu Leu Pro Gln Ala Ile
 130 135 140

Glu Phe Val Asn Gln Tyr Tyr Gly Ser Phe Lys Glu Ala Lys Ile Glu
 145 150 155 160

Glu His Leu Ala Arg Val Glu Ala Val Thr Lys Glu Ile Glu Thr Thr
 165 170 175

Gly Thr Tyr Gln Leu Thr Gly Asp Glu Leu Ile Phe Ala Thr Lys Gln
 180 185 190

Ala	Trp	Arg	Asn	Ala	Pro	Arg	Cys	Ile	Gly	Arg	Ile	Gln	Trp	Ser	Asn		
	195						200					205					
Leu	Gln	Val	Phe	Asp	Ala	Arg	Ser	Cys	Ser	Thr	Ala	Arg	Glu	Met	Phe		
	210					215					220						
Glu	His	Ile	Cys	Arg	His	Val	Arg	Tyr	Ser	Thr	Asn	Asn	Gly	Asn	Ile		
225					230					235					240		
Arg	Ser	Ala	Ile	Thr	Val	Phe	Pro	Gln	Arg	Ser	Asp	Gly	Lys	His	Asp		
				245					250					255			
Phe	Arg	Val	Trp	Asn	Ala	Gln	Leu	Ile	His	Tyr	Ala	Gly	Tyr	Gln	Met		
			260					265					270				
Pro	Asp	Gly	Ser	Ile	Arg	Gly	Asp	Pro	Ala	Asn	Val	Glu	Phe	Thr	Gln		
		275					280					285					
Leu	Cys	Ile	Asp	Leu	Gly	Trp	Lys	Pro	Lys	Tyr	Gly	Arg	Phe	Asp	Val		
	290					295					300						
Val	Pro	Leu	Val	Leu	Gln	Ala	Asn	Gly	Arg	Asp	Pro	Glu	Leu	Phe	Glu		
305					310					315					320		
Ile	Pro	Pro	Asp	Leu	Val	Leu	Glu	Val	Ala	Met	Glu	His	Pro	Lys	Tyr		
				325					330					335			
Glu	Trp	Phe	Arg	Glu	Leu	Glu	Leu	Lys	Trp	Tyr	Ala	Leu	Pro	Ala	Val		
			340					345					350				
Ala	Asn	Met	Leu	Leu	Glu	Val	Gly	Gly	Leu	Glu	Phe	Pro	Gly	Cys	Pro		
		355					360					365					
Phe	Asn	Gly	Trp	Tyr	Met	Gly	Thr	Glu	Ile	Gly	Val	Arg	Asp	Phe	Cys		
	370					375					380						
Asp	Val	Gln	Arg	Tyr	Asn	Ile	Leu	Glu	Glu	Val	Gly	Arg	Arg	Met	Gly		
385					390					395					400		
Leu	Glu	Thr	His	Lys	Leu	Ala	Ser	Leu	Trp	Lys	Asp	Gln	Ala	Val	Val		
				405					410					415			
Glu	Ile	Asn	Ile	Ala	Val	Leu	His	Ser	Phe	Gln	Lys	Gln	Asn	Val	Thr		
		420						425					430				

Ile Met Asp His His Ser Thr Ala Glu Ser Phe Met Lys Tyr Met Gln
435 440 445

Asn Glu Tyr Arg Ser Arg Gly Gly Cys Pro Ala Asp Trp Ile Trp Leu
450 455 460

Val Pro Pro Met Ser Gly Ser Ile Thr Pro Val Phe His Gln Glu Met
465 470 475 480

Leu Asn Tyr Val Leu Ser Pro Phe Tyr Tyr Tyr Gln Val Glu Ala Trp
485 490 495

Lys Thr His Val Trp Gln Asp Glu Lys Arg Arg Pro Lys Arg Arg Glu
500 505 510

Ile Pro Leu Lys Val Leu Val Lys Ala Val Leu Phe Ala Cys Met Leu
515 520 525

Met Arg Lys Thr Met Ala Ser Arg Val Arg Val Thr Ile Leu Phe Ala
530 535 540

Thr Glu Thr Gly Lys Ser Glu Ala Leu Ala Trp Asp Leu Gly Ala Leu
545 550 555 560

Phe Ser Cys Ala Phe Asn Pro Lys Val Val Cys Met Asp Lys Tyr Arg
565 570 575

Leu Ser Cys Leu Glu Glu Glu Arg Leu Leu Leu Val Val Thr Ser Thr
580 585 590

Phe Gly Asn Gly Asp Cys Pro Gly Asn Gly Glu Lys Leu Lys Lys Ser
595 600 605

Leu Phe Met Leu Lys Glu Leu Asn Asn Lys Phe Arg Tyr Ala Val Phe
610 615 620

Gly Leu Gly Ser Ser Met Tyr Pro Arg Phe Cys Ala Phe Ala His Asp
625 630 635 640

Ile Asp Gln Lys Leu Ser His Leu Gly Ala Ser Gln Leu Thr Pro Met
645 650 655

Gly Glu Gly Asp Glu Leu Ser Gly Gln Glu Asp Ala Phe Arg Ser Trp
660 665 670

Ala	Val	Gln	Thr	Phe	Lys	Ala	Ala	Cys	Glu	Thr	Phe	Asp	Val	Arg	Gly	675	680	685	
Lys	Gln	His	Ile	Gln	Ile	Pro	Lys	Leu	Tyr	Thr	Ser	Asn	Val	Thr	Trp	690	695	700	
Asp	Pro	His	His	Tyr	Arg	Leu	Val	Gln	Asp	Ser	Gln	Pro	Leu	Asp	Leu	705	710	715	720
Ser	Lys	Ala	Leu	Ser	Ser	Met	His	Ala	Lys	Asn	Val	Phe	Thr	Met	Arg	725	730	735	
Leu	Lys	Ser	Arg	Gln	Asn	Leu	Gln	Ser	Pro	Thr	Ser	Ser	Arg	Ala	Thr	740	745	750	
Ile	Leu	Val	Glu	Leu	Ser	Cys	Glu	Asp	Gly	Gln	Gly	Leu	Asn	Tyr	Leu	755	760	765	
Pro	Gly	Glu	His	Leu	Gly	Val	Cys	Pro	Gly	Asn	Gln	Pro	Ala	Leu	Val	770	775	780	
Gln	Gly	Ile	Leu	Glu	Arg	Val	Val	Asp	Gly	Pro	Thr	Pro	His	Gln	Thr	785	790	795	800
Val	Arg	Leu	Glu	Ala	Leu	Asp	Glu	Ser	Gly	Ser	Tyr	Trp	Val	Ser	Asp	805	810	815	
Lys	Arg	Leu	Pro	Pro	Cys	Ser	Leu	Ser	Gln	Ala	Leu	Thr	Tyr	Phe	Leu	820	825	830	
Asp	Ile	Thr	Thr	Pro	Pro	Thr	Gln	Leu	Leu	Leu	Gln	Lys	Leu	Ala	Gln	835	840	845	
Val	Ala	Thr	Glu	Glu	Pro	Glu	Arg	Gln	Arg	Leu	Glu	Ala	Leu	Cys	Gln	850	855	860	
Pro	Ser	Glu	Tyr	Ser	Lys	Trp	Lys	Phe	Thr	Asn	Ser	Pro	Thr	Phe	Leu	865	870	875	880
Glu	Val	Leu	Glu	Glu	Phe	Pro	Ser	Leu	Arg	Val	Ser	Ala	Gly	Phe	Leu	885	890	895	
Leu	Ser	Gln	Leu	Pro	Ile	Leu	Lys	Pro	Arg	Phe	Tyr	Ser	Ile	Ser	Ser	900	905	910	

Ser Arg Asp His Thr Pro Thr Glu Ile His Leu Thr Val Ala Val Val
915 920 925

Thr Tyr His Thr Arg Asp Gly Gln Gly Pro Leu His His Gly Val Cys
930 935 940

Ser Thr Trp Leu Asn Ser Leu Lys Pro Gln Asp Pro Val Pro Cys Phe
945 950 955 960

Val Arg Asn Ala Ser Gly Phe His Leu Pro Glu Asp Pro Ser His Pro
965 970 975

Cys Ile Leu Ile Gly Pro Gly Thr Gly Ile Ala Pro Phe Arg Ser Phe
980 985 990

Trp Gln Gln Arg Leu His Asp Ser Gln His Lys Gly Val Arg Gly Gly
995 1000 1005

Arg Met Thr Leu Val Phe Gly Cys Arg Arg Pro Asp Glu Asp His
1010 1015 1020

Ile Tyr Gln Glu Glu Met Leu Glu Met Ala Gln Lys Gly Val Leu
1025 1030 1035

His Ala Val His Thr Ala Tyr Ser Arg Leu Pro Gly Lys Pro Lys
1040 1045 1050

Val Tyr Val Gln Asp Ile Leu Arg Gln Gln Leu Ala Ser Glu Val
1055 1060 1065

Leu Arg Val Leu His Lys Glu Pro Gly His Leu Tyr Val Cys Gly
1070 1075 1080

Asp Val Arg Met Ala Arg Asp Val Ala His Thr Leu Lys Gln Leu
1085 1090 1095

Val Ala Ala Lys Leu Lys Leu Asn Glu Glu Gln Val Glu Asp Tyr
1100 1105 1110

Phe Phe Gln Leu Lys Ser Gln Lys Arg Tyr His Glu Asp Ile Phe
1115 1120 1125

Gly Ala Val Phe Pro Tyr Glu Ala Lys Lys Asp Arg Val Ala Val
1130 1135 1140

Gln Pro Ser Ser Leu Glu Met Ser Ala Leu
 1145 1150

<210> 39
 <211> 2943
 <212> DNA
 <213> Homo sapiens

<400> 39
 accaggcaac accattgaag gctcatatgt aaaaatccat gccttccttt ctcccaatct 60
 ccattcccaa acttagccac tggcttctgg ctgaggcctt acgcatacct cccggggcctt 120
 gcacacacct tcttctacag aagacacacc ttgggcatat cctacagaag accaggcttc 180
 tctctggtcc ttggtagagg gctactttac tgtaacaggg ccagggtgga gagttctctc 240
 ctgaagctcc atccccctcta taggaaatgt gttgacaata ttcagaagag taagaggatc 300
 aagacttctt tgtgctcaaa taccactggt ctcttctcta ccctgcccta accaggagct 360
 tgtcacccca aactctgagg tgatttatgc cttaatcaag caaacttccc tcttcagaaa 420
 agatggctca ttttccctca aaagttgcca ggagctgcca agtattctgc caattcaccc 480
 tggagcacia tcaacaaatt cagccagaac acaactacag ctactattag aactattatt 540
 attaataaat tcctctccaa atctagcccc ttgacttcgg atttcacgat ttctcccttc 600
 ctctagaaa cttgataagt ttcccgcgt tccctttttc taagactaca tgtttgtcat 660
 cttataaagc aaaggggtga ataaatgaac caaatcaata acttctggaa tatctgcaaa 720
 caacaataat atcagctatg ccatctttca ctatttttagc cagtatcgag ttgaatgaac 780
 atagaaaaat acaaaaactga attcttccct gttaaattccc cgttttgacg acgcacttgt 840
 agccacgtag ccacgcctac ttaagacaat tacaaaaggc gaagaagact gactcaggct 900
 taagctgcca gccagagagg gagtcatttc attggcggtt gagtcagcaa agaagtcaag 960
 atggccaaag ttccagacat gtttgaagac ctgaagaact gttacagtga aaatgaagaa 1020
 gacagttcct ccattgatca tctgtctctg aatcagaaat ccttctatca tgtaagctat 1080
 ggcccactcc atgaaggctg catggatcaa tctgtgtctc tgagtatctc tgaaacctct 1140
 aaaacatcca agcttacctt caaggagagc atggtggtag tagcaaccaa cggaagggtt 1200
 ctgaagaaga gacggttgag tttaagccaa tccatcactg atgatgacct ggaggccatc 1260
 gccaatgact cagaggaaga aatcatcaag cctaggtcag caccttttag cttcctgagc 1320
 aatgtgaaat acaactttat gaggatcatc aaatacgaat tcatcctgaa tgacgccctc 1380
 aatcaaagta taattcgagc caatgatcag tacctcacgg ctgctgcatt acataatctg 1440

gatgaagcag tgaaatttga catgggtgct tataagtcac caaaggatga tgctaaaatt	1500
accgtgattc taagaatctc aaaaactcaa ttgtatgtga ctgcccaaga tgaagaccaa	1560
ccagtgcctgc tgaaggagat gcctgagata cccaaaacca tcacaggtag tgagaccaac	1620
ctcctcttct tctgggaaac tcacggcact aagaactatt tcacatcagt tgcccatcca	1680
aaattgttta ttgccacaaa gcaagactac tgggtgtgct tggcaggggg gccaccctct	1740
atcactgact ttcagatact ggaaaaccag gcgtagggtct ggagtctcac ttgtctcact	1800
tgtgcagtggt tgacagttca tatgtacat gtacatgaag aagctaaatc ctttactgtt	1860
agtcattttgc tgagcatgta ctgagccttg taattctaaa tgaatgttta cactctttgt	1920
aagagtggaa ccaacactaa catataatgt tgttatttta agaaccacct atattttgca	1980
tagtaccaat cattttaatt attattcttc ataacaattt taggaggacc agagctactg	2040
actatggcta ccaaaaagac tctaccata ttacagatgg gcaaattaag gcataagaaa	2100
actaagaaat atgcacaata gcagttgaaa caagaagcca cagacctagg atttcatgat	2160
ttcatttcaa ctgtttgcct tctactttta agttgctgat gaactcttaa tcaaatagca	2220
taagtttctg ggacctcagt tttatcattt tcaaaatgga gggaataata cctaagcctt	2280
cctgcgcgaa cagtttttta tgctaatacag ggaggtcatt ttggtaaaat acttcttgaa	2340
gccgagcctc aagatgaagg caaagcacga aatgttattt tttaattatt atttatatat	2400
gtattttataa atatatttta gataattata atatactata tttatgggaa ccccttcac	2460
ctctgagtggt gaccaggcat cctccacaat agcagacagt gttttctggg ataagtaagt	2520
ttgatttcat taatacaggg cattttgggc caagttgtgc ttatccata gccaggaaac	2580
tctgcattct agtacttggg agacctgtaa tcatataata aatgtacatt aattaccttg	2640
agccagtaat tgggtccgac tttgactctt ttgccattaa acttacctgg gcattcttgt	2700
ttcaattcca cctgcaatca agtctacaa gctaaaatta gatgaactca actttgacaa	2760
ccatgagacc actgttatca aaactttctt ttctggaatg taatcaatgt ttcttctagg	2820
ttctaaaaat tgtgatcaga ccataatgtt acattattat caacaatagt gattgataga	2880
gtgttatcag tcataactaa ataaagcttg caacaaaatt ctctgacaaa aaaaaaaaaa	2940
aaa	2943

<210> 40
 <211> 271
 <212> PRT
 <213> Homo sapiens
 <400> 40

Met Ala Lys Val Pro Asp Met Phe Glu Asp Leu Lys Asn Cys Tyr Ser
1 5 10 15
Glu Asn Glu Glu Asp Ser Ser Ser Ile Asp His Leu Ser Leu Asn Gln
20 25 30
Lys Ser Phe Tyr His Val Ser Tyr Gly Pro Leu His Glu Gly Cys Met
35 40 45
Asp Gln Ser Val Ser Leu Ser Ile Ser Glu Thr Ser Lys Thr Ser Lys
50 55 60
Leu Thr Phe Lys Glu Ser Met Val Val Val Ala Thr Asn Gly Lys Val
65 70 75 80
Leu Lys Lys Arg Arg Leu Ser Leu Ser Gln Ser Ile Thr Asp Asp Asp
85 90 95
Leu Glu Ala Ile Ala Asn Asp Ser Glu Glu Glu Ile Ile Lys Pro Arg
100 105 110
Ser Ala Pro Phe Ser Phe Leu Ser Asn Val Lys Tyr Asn Phe Met Arg
115 120 125
Ile Ile Lys Tyr Glu Phe Ile Leu Asn Asp Ala Leu Asn Gln Ser Ile
130 135 140
Ile Arg Ala Asn Asp Gln Tyr Leu Thr Ala Ala Ala Leu His Asn Leu
145 150 155 160
Asp Glu Ala Val Lys Phe Asp Met Gly Ala Tyr Lys Ser Ser Lys Asp
165 170 175
Asp Ala Lys Ile Thr Val Ile Leu Arg Ile Ser Lys Thr Gln Leu Tyr
180 185 190
Val Thr Ala Gln Asp Glu Asp Gln Pro Val Leu Leu Lys Glu Met Pro
195 200 205
Glu Ile Pro Lys Thr Ile Thr Gly Ser Glu Thr Asn Leu Leu Phe Phe
210 215 220
Trp Glu Thr His Gly Thr Lys Asn Tyr Phe Thr Ser Val Ala His Pro
225 230 235 240

Asn Leu Phe Ile Ala Thr Lys Gln Asp Tyr Trp Val Cys Leu Ala Gly
 245 250 255

Gly Pro Pro Ser Ile Thr Asp Phe Gln Ile Leu Glu Asn Gln Ala
 260 265 270

<210> 41
 <211> 1358
 <212> DNA
 <213> Homo sapiens

<400> 41
 aaaagccatg gccgacaagg tcctgaagga gaagagaaag ctgtttatcc gttccatggg 60
 tgaagggtaca ataaatggct tactggatga attattacag acaagggtgc tgaacaagga 120
 agagatggag aaagtaaaac gtgaaaatgc tacagttatg gataagaccc gagctttgat 180
 tgactccggtt attccgaaag gggcacaggc atgccaaatt tgcatacat acattttgtga 240
 agaagacagt tacctggcag ggacgctggg actctcagca gatcaaacat ctggaaatta 300
 ccttaatatg caagactctc aaggagtact ttcttctctt ccagctcctc aggcagtgc 360
 ggacaaccca gctatgccca catcctcagg ctcagaaggg aatgtcaagc tttgctccct 420
 agaagaagct caaaggatat ggaaacaaaa gtcggcagag atttatccaa taatggacaa 480
 gtcaagccgc acacgtcttg ctctcattat ctgcaatgaa gaatttgaca gtattcctag 540
 aagaactgga gctgaggttg acatcacagg catgacaatg ctgctacaaa atctggggta 600
 cagcgtagat gtgaaaaaaaa atctcactgc ttcggacatg actacagagc tggaggcatt 660
 tgcacaccgc ccagagcaca agacctctga cagcacgttc ctggtgttca tgtctcatgg 720
 tattcgggaa ggcattttgtg ggaagaaaca ctctgagcaa gtcccagata tactacaact 780
 caatgcaatc tttaacatgt tgaataccaa gaactgccca agtttgaagg acaaaccgaa 840
 ggtgatcatc atccaggcct gccgtggtga cagccctggt gtggtgtggt ttaaagattc 900
 agtaggagtt tctggaaacc tatctttacc aactacagaa gagtttgagg atgatgctat 960
 taagaaagcc cacatagaga aggattttat cgctttctgc tcttcacac cagataatgt 1020
 ttcttgagga catcccacaa tgggctctgt ttttattgga agactcattg aacatatgca 1080
 agaatatgcc tgttctctgt atgtggagga aattttccgc aaggttcgat tttcatttga 1140
 gcagccagat ggtagagcgc agatgccac cactgaaaga gtgactttga caagatgttt 1200
 ctacctcttc ccaggacatt aaaataagga aactgtatga atgtctgtgg gcagggtgaa 1260
 gagatccttc tgtaaagggt tttgaattat gtctgtgtaa taataaactt ttttgaaata 1320
 ataaatctgg tagaaaaatg aaaaaaaaaa aaaaaaaaaa 1358

<210> 42
 <211> 404
 <212> PRT
 <213> Homo sapiens

<400> 42

Met Ala Asp Lys Val Leu Lys Glu Lys Arg Lys Leu Phe Ile Arg Ser
 1 5 10 15

Met Gly Glu Gly Thr Ile Asn Gly Leu Leu Asp Glu Leu Leu Gln Thr
 20 25 30

Arg Val Leu Asn Lys Glu Glu Met Glu Lys Val Lys Arg Glu Asn Ala
 35 40 45

Thr Val Met Asp Lys Thr Arg Ala Leu Ile Asp Ser Val Ile Pro Lys
 50 55 60

Gly Ala Gln Ala Cys Gln Ile Cys Ile Thr Tyr Ile Cys Glu Glu Asp
 65 70 75 80

Ser Tyr Leu Ala Gly Thr Leu Gly Leu Ser Ala Asp Gln Thr Ser Gly
 85 90 95

Asn Tyr Leu Asn Met Gln Asp Ser Gln Gly Val Leu Ser Ser Phe Pro
 100 105 110

Ala Pro Gln Ala Val Gln Asp Asn Pro Ala Met Pro Thr Ser Ser Gly
 115 120 125

Ser Glu Gly Asn Val Lys Leu Cys Ser Leu Glu Glu Ala Gln Arg Ile
 130 135 140

Trp Lys Gln Lys Ser Ala Glu Ile Tyr Pro Ile Met Asp Lys Ser Ser
 145 150 155 160

Arg Thr Arg Leu Ala Leu Ile Ile Cys Asn Glu Glu Phe Asp Ser Ile
 165 170 175

Pro Arg Arg Thr Gly Ala Glu Val Asp Ile Thr Gly Met Thr Met Leu
 180 185 190

Leu Gln Asn Leu Gly Tyr Ser Val Asp Val Lys Lys Asn Leu Thr Ala
 195 200 205

Ser Asp Met Thr Thr Glu Leu Glu Ala Phe Ala His Arg Pro Glu His
 210 215 220

Lys Thr Ser Asp Ser Thr Phe Leu Val Phe Met Ser His Gly Ile Arg
 225 230 235 240

Glu Gly Ile Cys Gly Lys Lys His Ser Glu Gln Val Pro Asp Ile Leu
 245 250 255

Gln Leu Asn Ala Ile Phe Asn Met Leu Asn Thr Lys Asn Cys Pro Ser
 260 265 270

Leu Lys Asp Lys Pro Lys Val Ile Ile Ile Gln Ala Cys Arg Gly Asp
 275 280 285

Ser Pro Gly Val Val Trp Phe Lys Asp Ser Val Gly Val Ser Gly Asn
 290 295 300

Leu Ser Leu Pro Thr Thr Glu Glu Phe Glu Asp Asp Ala Ile Lys Lys
 305 310 315 320

Ala His Ile Glu Lys Asp Phe Ile Ala Phe Cys Ser Ser Thr Pro Asp
 325 330 335

Asn Val Ser Trp Arg His Pro Thr Met Gly Ser Val Phe Ile Gly Arg
 340 345 350

Leu Ile Glu His Met Gln Glu Tyr Ala Cys Ser Cys Asp Val Glu Glu
 355 360 365

Ile Phe Arg Lys Val Arg Phe Ser Phe Glu Gln Pro Asp Gly Arg Ala
 370 375 380

Gln Met Pro Thr Thr Glu Arg Val Thr Leu Thr Arg Cys Phe Tyr Leu
 385 390 395 400

Phe Pro Gly His

<210> 43
 <211> 6752
 <212> DNA
 <213> Homo sapiens

<400> 43
 ctgaatagtgt tccaggtgat ttagaggata aataaaaatc cattaaagag gttaaagacat

60

aaaaacgaga aacatggact ggtttacaca taacacatac aaagtctatt ataaaactag	120
catcagtatc cttgaatgca aacctttttc tgagtattta acaatcgcac cctttaaaaa	180
atgtacaata gacattaaga gacttaaaca gatataaat cattttaaat taaaatagcg	240
ttaaacagta cctcaagctc aataagcatt ttaagtattc taatcttagt atttctctag	300
ctgacatgta agaagcaatc tatcttattg tatgcaatta gctcattgtg tggataaaaa	360
ggtaaaacca ttctgaaaca ggaaaccaat acacttcctg tttaatcaac aaatctaaac	420
atttattctt ttcatctgtt tactcttgct cttgtccacc acaatatgct attcacatgt	480
tcagtgtagt tttatgacaa agaaaatttt ctgagttact tttgtatccc cacccttcta	540
aagaaaggag gaaaaactgt ttcatacaga aggcgttaat tgcatagaatt agagctatca	600
cctaagtgtg ggctaattga acaaagaggg atttcaccta catccattca gtcagtcttt	660
gggggtttta agaaattcca aagagtcac agaagaggaa aaatgaagggt aatgtttttt	720
cagacaggta aagtctttga aaatatgtgt aatatgtaaa acattttgac acccccataa	780
tattttttcca gaattaacag tataaattgc atctcttggt caagagttcc ctatcactct	840
ctttaatcac tactcacagt aacctcaact cctgccacaa tgtacaggat gcaactcctg	900
tcttgcatg cactaagtct tgcacttgct acaaacagtg cacctacttc aagttctaca	960
aagaaaacac agctacaact ggagcattta ctgctggatt tacagatgat tttgaatgga	1020
attaatgtaa gtatatttcc tttcttacta aaattattac atttagtaat ctagctggag	1080
atcatttctt aataacaatg cattatactt tottagaatt acaagaatcc caaactcacc	1140
aggatgctca catttaagtt ttacatgccc aagaaggtaa gtacaatatt ttatgttcaa	1200
tttctgtttt aataaaattc aaagtaatat gaaaatttgc acagatggga ctaatagcag	1260
ctcatctgag gtaaagagta actttaattt gtttttttga aaaccaaggt ttgataatga	1320
agcctctatt aaaacagttt tacctatatt tttaatatat atttgtgtgt tgggtgggggt	1380
gggaagaaaa cataaaaata atattctcac tttatcgata agacaattct aaacaaaaat	1440
gttcatttat ggtttcattt aaaaatgtaa aactctaaaa tatttgatta tgtcatttta	1500
gtatgtaaaa taccaaaatc tattttccaag gagccactt ttaaaaatct tttcttgttt	1560
taggaaagggt ttctaagtga gaggcagcat aacactaata gcacagagtc tggggccaga	1620
tatctgaagt gaaatctcag ctctgccatg tcctagcttt catgatcttt ggcaaattac	1680
ctactctgtt tgtgattcag tttcatgtct acttaaatga ataactgtat atacttaata	1740
tggctttgtg agaattagta agtaaatgta aagcactcag aaccgtgtct ggcataagggt	1800
aaataccata caagcattag ctattattag tagtattaaa gataaaattt tcactgagaa	1860

atacaaagta aaatTTTgga cTTtatcTTT ttaccaatag aacttgagat ttataatgct	1920
atatgactta ttttccaaga ttaaaagctt cattaggttg tttttggatt cagatagagc	1980
ataagcataa tcatccaagc tcctaggcta cattaggtgt gtaaagctac ctagtagctg	2040
tgccagttaa gagagaatga acaaaatctg gtgccagaaa gagcttgtgc caggggtgaat	2100
ccaagcccag aaaataatag gatttaaggg gacacagatg caatcccatt gactcaaatt	2160
ctattaattc aagagaaatc tgcttctaac tacccttctg aaagatgtaa aggagacagc	2220
ttacagatgt tactctagtt taatcagagc cacataatgc aactccagca acataaagat	2280
actagatgct gttttctgaa gaaaatttct ccacattgtt catgccaaaa acttaaacc	2340
gaatttgtag aatttgtagt ggtgaattga aagcgcaata gatggacata tcaggggatt	2400
ggtattgtct tgacctacct ttcccactaa agagtgttag aaagatgaga ttatgtgcat	2460
aatttagggg gtggtagaat tcatggaaat ctaagtttga aaccaaagt aatgataaac	2520
tctattcatt tgttcattta accctcattg cacatttaca aaagatttta gaaactaata	2580
aaaatatttg attccaagga tgctatgtta atgctataat gagaaagaaa tgaaatctaa	2640
ttctggctct acctacttat gtggtcaaat totgagattt agtgtgctta tttataaagt	2700
ggagatgata cttcactgcc tacttcaaaa gatgactgtg agaagtaaat gggcctattt	2760
tgagaaaaat tcttttaaat tgtaatatat catagaaata tgaaatatta tatataatat	2820
agaatcaaga ggcctgtcca aaagtccctc caaagtatta taatctttta tttcactggg	2880
acaaacattt ttaaaatgca tcttaatgta gtgattgtag aaaagtaaaa atttaagaca	2940
tatttaaaaa tgtgtcttgc tcaaggctat attgagagcc actactacat gattattggt	3000
acctagtgtg aaatgttggg attgtgatag atggcatcca agagttcctt ctctctcaac	3060
attctgtgat tcttaactct tagactatca aatattataa tcatagaatg tgatttttat	3120
gcttccacat tctaactcat ctggttctaa tgattttcta tgcagattgg aaaagtaatc	3180
agcctacatc tgtaataggc atttagatgc agaaagtcta acattttgca aagccaaatt	3240
aagctaaaaa cagtgagtca actatcaact aacgctagtc ataggtactt gagccctagt	3300
ttttccagtt ttataatgta aactctactg gtccatcttt acagtgacat tgagaacaga	3360
gagaatggta aaaactacat actgctactc caaataaaat aaattggaaa ttaatttctg	3420
attctgacct ctatgtaaac tgagctgatg ataattatta ttctaggcca cagaactgaa	3480
acatcttcag tgtctagaag aagaactcaa acctctggag gaagtgctaa atttagctca	3540
aagcaaaaac tttcacttaa gaccagggga cttaatcagc aatatcaacg taatagttct	3600
ggaactaaag gtaaggcatt actttatttg ctctcctgga aataaaaaaa aaaaagtagg	3660

gggaaaagta ccccatTTTT aagtGacata acatTTTTtg tatttgtaaa gtacccatgc	3720
atgtaattag cctacatTTTT aagtacactg tgaacatgaa tcatttctaa tgttaaata	3780
ttaactgggg agtataagct actgagtttg cacctaccat ctactaatgg acaagcctca	3840
tcccaaactc catcaccttt catattaaca caaaactggg agtgagagaa ggtactgagt	3900
tgagtttcac agaaagcagg cagatTTTTat tatatatTTTT tcaattcctt cagatcattt	3960
actggaatag ccaatactga ttacctgaaa ggctTTTTcaa atgggtgtttc cttatcattt	4020
gatggaagga ctacccataa gagatttgtc ttaaaaaaaaa aaactggagc cattaaaatg	4080
gccagtggac taaacaaaca acaatctttt tagaggcaat ccccatTTTc agaatcttaa	4140
gtatTTTTta atgcacagga agcataaaat atgcaaggga ctcaggtgat gtaaaagaga	4200
ttcactTTTTg tctttttata tcccgctctc taagggtataa aattcatgag ttaataggta	4260
tcctaaataa gcagcataag tatagtagta aaagacattc ctaaaagtaa ctccagttgt	4320
gtccaaatga atcacttatt agtggactgt ttcagttgaa ttaaaaaaat acattgagat	4380
caatgtcatc tagacattga cagattcagt tccttatcta tggcaagagt tttactctaa	4440
aataattaac atcagaaaac tcattcttaa ctcttgatac aaatttaaga caaaaccatg	4500
caaaaatctg aaaactgtgt ttcaaaagcc aaacactTTTt taaaataaaa aaatcccaag	4560
atatgacaat atttaaaca ttatgcttaa gaggatacag aacactgcaa cagttTTTTa	4620
aaagagaata cttatTTTaa gggaacactc tatctcacct gcttttgTtc ccagggtagg	4680
aatcacttca aatttgaaaa gctctctTTTt aaatctcact atatatcaaa aatatttcct	4740
ccttagctta tcaactagag gaagcgtTTa aatagctcct ttcagcagag aagcctaatt	4800
tctaaaaagc cagtccacag aacaaaattt ctaatgtTTa aactTTTTaaa agttggcaaa	4860
ttcacctgca ttgatactat gatggggtag ggataggtgt aagtatttat gaagatgttc	4920
ttcacacaaa tttatcccaa acagaagcat gtctagctt actctagtgt agttctgttc	4980
tgctttgggg aaaatataag gagattcact taagtagaaa aataggagac tctaataag	5040
atttagaaaa gaagaaagta taatgtgcat atcaattcat acatttaact tacacaaata	5100
taggtgtaca ttcagaggaa aagcgatcaa gtttatttca catccagcat ttaatatTTg	5160
tctagatcta tttttattta aatctttatt tgcaccaat ttagggaaaa aatttttgTg	5220
ttcattgact gaattaacaa atgaggaaaa tctcagcttc tgtgttacta tcatttggt	5280
tcataacaaa atatgtaatt ttggcattca ttttgatcat ttcaagaaaa tgtgaataat	5340
taatatgttt ggtaagcttg aaaataaagg caacaggcct ataagacttc aattgggaat	5400
aactgtatat aaggtaaact actctgtact ttaaaaaatt aacattTTTc ttttataggg	5460

atctgaaaca acattcatgt gtgaatatgc tgatgagaca gcaaccattg tagaatttct 5520
 gaacagatgg attacctttt gtcaaagcat catctcaaca ctgacttgat aattaagtgc 5580
 ttcccactta aaacatatca ggccttctat ttattttaa atttaaattt tatatttatt 5640
 gttgaatgta tggtttgcta cctattgtaa ctattattct taatcttaaa actataaata 5700
 tggatctttt atgattcttt ttgtaagccc taggggctct aaaatggttt cacttattta 5760
 tcccaaaata ttattatta tgttgaatgt taaatatagt atctatgtag attggttagt 5820
 aaaactattt aataaatttg ataaatataa acaagcctgg atatttgta ttttggaac 5880
 agcacagagt aagcatttaa atatttctta gttacttggt tgaactgtag gatggttaaa 5940
 atgcttacaa aagtcactct ttctctgaag aaatatgtag aacagagatg tagacttctc 6000
 aaaagccctt gctttgtcct ttcaagggt gatcagaccc ttagttctgg catctcttag 6060
 cagattatat ttctctctt cttaaaatgc caaacacaaa cactcttgaa actcttcata 6120
 gatttgggtg ggctatgaat tctccaatat cttacaccct gccagtgct gtgaggaggc 6180
 tcacctgtat ggcctatata aaaggtcttc cctgcccttt ggctttccat tgggtcctgc 6240
 cactggggag tgctggtagg aactatgagg aacataagag attcccttga ctccctcctt 6300
 gtggagtaga cccaggatgg ctgtgtctct caagcaagga acccagatta cctcaagggtg 6360
 gcaactctggg tactttttcc ttctgagtga ttctggtaat ctcccttgt ccctttaagc 6420
 ctagggaggg tggtagcttt gctgttagca actccagggt acttgtagca tcccttgtag 6480
 ttccctgaa ctctgacct agctttttta atagtccttt tattaaatcc tccttttgat 6540
 tgagtatgcc atctatttcc tgctgggact cagatacagt aattgtatca gaaatagccc 6600
 cagaaaatag accctcaaaa taggattctg ggactgggtt gttcatatat tcaaggaatg 6660
 caaggataat aggacatggg aaatctacgg gatgtagtag catcgcaatt actgaactta 6720
 tcatcaatgg tagaatggga tgaaatgcag ac 6752

<210> 44
 <211> 153
 <212> PRT
 <213> Homo sapiens

<400> 44

Met Tyr Arg Met Gln Leu Leu Ser Cys Ile Ala Leu Ser Leu Ala Leu
 1 5 10 15

Val Thr Asn Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
 20 25 30

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
 35 40 45

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
 50 55 60

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
 65 70 75 80

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
 85 90 95

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
 100 105 110

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
 115 120 125

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
 130 135 140

Cys Gln Ser Ile Ile Ser Thr Leu Thr
 145 150

<210> 45
 <211> 924
 <212> DNA
 <213> Homo sapiens

<400> 45
 cagagcccca cgaaggacca gaacaagaca gagtgcctcc tgccgatcca aacatgagcc 60
 gcctgcccgt cctgctcctg ctccaactcc tgggtccgccc cggactccaa gctcccatga 120
 cccagacaac gcccttgaag acaagctggg ttaactgctc taacatgata gatgaaatta 180
 taacacactt aaagcagcca cctttgcctt tgctggactt caacaacctc aatggggaag 240
 accaagacat tctgatggaa aataaccttc gaaggccaaa cctggaggca ttcaacaggg 300
 ctgtcaagag ttacagaac gcatcagcaa ttgagagcat tcttaaaaat ctctgccat 360
 gtctgcccct ggccacggcc gcacccacgc gacatccaat ccatatcaag gacggtgact 420
 ggaatgaatt ccggaggaaa ctgacgttct atctgaaaac ccttgagaat gcgcaggctc 480
 aacagacgac tttagcctc gcatctttt gagtccaacg tccagctcgt tctctgggcc 540
 ttctcaccac agagcctcgg gacatcaaaa acagcagaac ttctgaaacc tctgggtcat 600
 ctctcacaca ttccaggacc agaagcattt caccttttcc tgcggcatca gatgaattgt 660

taattatcta atttctgaaa tgtgcagctc ccatttggcc ttgtgcggtt gtgttctcat	720
ttttatccca ttgagactat ttatttatgt atgtatgtat ttatttattt attgcctgga	780
gtgtgaactg tattttatttt agcagaggag ccatgtcctg ctgcttctgc aaaaaactca	840
gagtgggggtg gggagcatgt tcatttgtac ctcgagtttt aaactgggtc ctagggatgt	900
gtgagaataa actagactct gaac	924

<210> 46
 <211> 152
 <212> PRT
 <213> Homo sapiens

<400> 46

Met Ser Arg Leu Pro Val Leu Leu Leu Leu Gln Leu Leu Val Arg Pro	
1 5 10 15	

Gly Leu Gln Ala Pro Met Thr Gln Thr Thr Pro Leu Lys Thr Ser Trp	
20 25 30	

Val Asn Cys Ser Asn Met Ile Asp Glu Ile Ile Thr His Leu Lys Gln	
35 40 45	

Pro Pro Leu Pro Leu Leu Asp Phe Asn Asn Leu Asn Gly Glu Asp Gln	
50 55 60	

Asp Ile Leu Met Glu Asn Asn Leu Arg Arg Pro Asn Leu Glu Ala Phe	
65 70 75 80	

Asn Arg Ala Val Lys Ser Leu Gln Asn Ala Ser Ala Ile Glu Ser Ile	
85 90 95	

Leu Lys Asn Leu Leu Pro Cys Leu Pro Leu Ala Thr Ala Ala Pro Thr	
100 105 110	

Arg His Pro Ile His Ile Lys Asp Gly Asp Trp Asn Glu Phe Arg Arg	
115 120 125	

Lys Leu Thr Phe Tyr Leu Lys Thr Leu Glu Asn Ala Gln Ala Gln Gln	
130 135 140	

Thr Thr Leu Ser Leu Ala Ile Phe	
145 150	

<210> 47
 <211> 921

<212> DNA
 <213> Homo sapiens

<400> 47
 ttctatgcaa agcaaaaagc cagcagcagc cccaagctga taagattaat ctaaagagca 60
 aattatggtg taatttccta tgctgaaact ttgtagttaa ttttttaaaa aggtttcatt 120
 ttcctattgg tctgatttca caggaacatt ttacctgttt gtgaggcatt ttttctcctg 180
 gaagagaggt gctgattggc cccaagtgc tgacaatctg gtgtaacgaa aatttccaat 240
 gtaaactcat tttccctcgg tttcagcaat tttaaatcta tatatagaga tatctttgtc 300
 agcattgcat cgttagcttc tctgataaa ctaattgcct cacattgtca ctgcaaactg 360
 acacctatta atgggtctca cctcccaact gcttccccct ctgttcttcc tgctagcatg 420
 tgccggcaac tttgtccacg gacacaagtg cgatatcacc ttacaggaga tcatcaaac 480
 tttgaacagc ctacagagc agaagactct gtgcaccgag ttgaccgtaa cagacatctt 540
 tgctgcctcc aagaacacaa ctgagaagga aaccttctgc agggctgcga ctgtgctccg 600
 gcagttctac agccaccatg agaaggacac tcgctgcctg ggtgcgactg cacagcagtt 660
 ccacaggcac aagcagctga tccgattcct gaaacggctc gacaggaacc tctggggcct 720
 ggcgggcttg aattcctgtc ctgtgaagga agccaaccag agtacgttgg aaaacttctt 780
 ggaaaggcta aagacgatca tgagagagaa atattcaaag tgttcgagct gaatatttta 840
 atttatgagt ttttgatagc tttatTTTTT aagtatttat atatttataa ctcatcataa 900
 aataaagtat atatagaatc t 921

<210> 48
 <211> 153
 <212> PRT
 <213> Homo sapiens

<400> 48
 Met Gly Leu Thr Ser Gln Leu Leu Pro Pro Leu Phe Phe Leu Leu Ala
 1 5 10 15
 Cys Ala Gly Asn Phe Val His Gly His Lys Cys Asp Ile Thr Leu Gln
 20 25 30
 Glu Ile Ile Lys Thr Leu Asn Ser Leu Thr Glu Gln Lys Thr Leu Cys
 35 40 45
 Thr Glu Leu Thr Val Thr Asp Ile Phe Ala Ala Ser Lys Asn Thr Thr
 50 55 60

Glu Lys Glu Thr Phe Cys Arg Ala Ala Thr Val Leu Arg Gln Phe Tyr
65 70 75 80

Ser His His Glu Lys Asp Thr Arg Cys Leu Gly Ala Thr Ala Gln Gln
85 90 95

Phe His Arg His Lys Gln Leu Ile Arg Phe Leu Lys Arg Leu Asp Arg
100 105 110

Asn Leu Trp Gly Leu Ala Gly Leu Asn Ser Cys Pro Val Lys Glu Ala
115 120 125

Asn Gln Ser Thr Leu Glu Asn Phe Leu Glu Arg Leu Lys Thr Ile Met
130 135 140

Arg Glu Lys Tyr Ser Lys Cys Ser Ser
145 150

<210> 49
<211> 1125
<212> DNA
<213> Homo sapiens

<400> 49
ttctgccctc gagcccaccg ggaacgaaag agaagctcta tctcgctcc aggagcccag 60
ctatgaactc cttctccaca agcgccttgc gtccagttgc cttctccctg gggctgctcc 120
tggtgttgcc tgctgccttc cctgccccag taccgccagg agaagattcc aaagatgtag 180
ccgccccaca cagacagcca ctacactctt cagaacgaat tgacaaaca attcggtaca 240
tcctcgacgg catctcagcc ctgagaaagg agacatgtaa caagagtaac atgtgtgaaa 300
gcagcaaaga ggcaactggca gaaaacaacc tgaaccttcc aaagatggct gaaaaagatg 360
gatgcttcca atctggattc aatgaggaga cttgcctggg gaaaatcatc actggtcttt 420
tggagtttga ggtataccta gactacctcc agaacagatt tgagagtagt gaggaacaag 480
ccagagctgt gcagatgagt acaaaagtcc tgatccagtt cctgcagaaa aaggcaaaga 540
atctagatgc aataaccacc cctgacccaa ccacaaatgc cagcctgctg acgaagctgc 600
aggcacagaa ccagtggctg caggacatga caactcatct cattctgcgc agctttaagg 660
agttcctgca gtccagcctg agggctcttc ggcaaagtga gcatgggcac ctgagattgt 720
tgttgtaaat gggcattcct tcttctgggc agaaacctgt ccaactgggc cagaacttat 780
gttggttctct atggagaact aaaagtatga gcgttaggac actattttta ttatttttaa 840
tttattaata tttaaatatg tgaagctgag ttaatttatg taagtcatat ttatattttt 900

aagaagtacc acttgaaaca ttttatgtat tagttttgaa ataataatgg aaagtggcta 960
 tgcagtttga atatcctttg tttcagagcc agatcatttc ttggaaagtg taggcttacc 1020
 tcaaataaat ggctaactta tacatatattt taaagaaata tttatatattgt atttatataa 1080
 tgtataaatg gttttttatcac caataaatgg catttttaaaa aattc 1125

<210> 50
 <211> 212
 <212> PRT
 <213> Homo sapiens

<400> 50

Met Asn Ser Phe Ser Thr Ser Ala Phe Gly Pro Val Ala Phe Ser Leu
 1 5 10 15

Gly Leu Leu Leu Val Leu Pro Ala Ala Phe Pro Ala Pro Val Pro Pro
 20 25 30

Gly Glu Asp Ser Lys Asp Val Ala Ala Pro His Arg Gln Pro Leu Thr
 35 40 45

Ser Ser Glu Arg Ile Asp Lys Gln Ile Arg Tyr Ile Leu Asp Gly Ile
 50 55 60

Ser Ala Leu Arg Lys Glu Thr Cys Asn Lys Ser Asn Met Cys Glu Ser
 65 70 75 80

Ser Lys Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala
 85 90 95

Glu Lys Asp Gly Cys Phe Gln Ser Gly Phe Asn Glu Glu Thr Cys Leu
 100 105 110

Val Lys Ile Ile Thr Gly Leu Leu Glu Phe Glu Val Tyr Leu Glu Tyr
 115 120 125

Leu Gln Asn Arg Phe Glu Ser Ser Glu Glu Gln Ala Arg Ala Val Gln
 130 135 140

Met Ser Thr Lys Val Leu Ile Gln Phe Leu Gln Lys Lys Ala Lys Asn
 145 150 155 160

Leu Asp Ala Ile Thr Thr Pro Asp Pro Thr Thr Asn Ala Ser Leu Leu
 165 170 175

Thr Lys Leu Gln Ala Gln Asn Gln Trp Leu Gln Asp Met Thr Thr His
180 185 190

Leu Ile Leu Arg Ser Phe Lys Glu Phe Leu Gln Ser Ser Leu Arg Ala
195 200 205

Leu Arg Gln Met
210

<210> 51
<211> 5191
<212> DNA
<213> Homo sapiens

<400> 51
gaattcagta acccaggcatt ttttttatcc tcaagtctta ggttggttgg agaaagataa 60
caaaaagaaa catgattgtg cagaaacaga caaacctttt tggaaagcat ttgaaaatgg 120
cattccccct ccacagtgtg ttcacagtgt gggcaaattc actgctctgt cgtactttct 180
gaaaatgaag aactgtttaca ccaaggtgaa ttatttataa attatgtact tgcccagaag 240
cgaacagact ttactatca taagaacctt tccttggtgt gctctttatc tacagaatcc 300
aagacctttc aagaaaggtc ttggattctt ttcttcagga cactaggaca taaagccacc 360
tttttatgat ttgttgaaat ttctcactcc atcccttttg ctgatgatca tgggtcctca 420
gaggtcagac ttggtgtcct tggataaaga gcatgaagca acagtggctg aaccagagtt 480
ggaaccacaga tgctctttcc actaagcata caactttcca ttagataaca cctccctccc 540
accccaacca agcagctcca gtgcaccact ttctggagca taaacatacc ttaactttac 600
aacttgagtg gccttgaata ctgttcctat ctggaatgtg ctgttctctt tcatcttctt 660
ctattgaagc cctcctattc ctcaatgcct tgctccaact gcctttggaa gattctgctc 720
ttatgcctcc actggaatta atgtcttagt accacttgct tattctgcta tatagtcagt 780
ccttacattg ctttcttctt ctgatagacc aaactcttta aggacaagta cctagtctta 840
tctattttcta gatccccac attactcaga aagttactcc ataaatgttt gtggaactga 900
tttctatgtg aagacatgtg ccccttcact ctgttaacta gcattagaaa aacaaatctt 960
ttgaaaagtt gtagtatgcc cctaagagca gtaacagttc ctagaaactc tctaaaatgc 1020
ttagaaaaag atttatttta aattacctcc ccaataaaat gattggctgg cttatcttca 1080
ccatcatgat agcatctgta attaaactgaa aaaaaataat tatgccatta aaagaaaatc 1140
atccatgatc ttgttctaac acctgccact ctagtactat atctgtcaca tgggtctatga 1200
taaagttatc tagaaataaa aaagcataca attgataatt caccaaattg tggagcttca 1260

gtatttttaa	tgtatattaa	aattaaatta	ttttaaagat	caaagaaaac	tttcgtcata	1320
ctccgtat	gataaggaac	aaataggaag	tgtgatgact	caggtttgcc	ctgaggggat	1380
gggccatcag	ttgcaa	atcg	tggaatttcc	tctgacataa	tgaaaagatg	1440
agttctctag	taggggtgatg	atataaaaag	ccaccggagc	actccataag	gcacaaactt	1500
tcagagacag	cagagcacac	aagcttctag	gacaagagcc	aggaagaaac	caccggaagg	1560
aaccattctc	actgtgtgta	aacatgactt	ccaagctggc	cgtggctctc	ttggcagcct	1620
tccctgatttc	tgcagctctg	tgtgaaggta	agcacatctt	tctgacctac	agcgttttcc	1680
tatgtctaaa	tgtgatcctt	agatagcaaa	gctattcttg	atgctttggg	aacaaacatc	1740
ctttttattc	agaaacagaa	tataatctta	gcagtcaatt	aatgtttaa	tgaagattta	1800
gaaaaaacta	tatataacac	ttaggaaata	taaaggtttg	atcaatatag	atattctgct	1860
tttataat	ataccaggta	gcatgcatat	atttaacgta	aataagtaat	ttatagtatg	1920
tccattgag	aaccacgggt	acctatatta	tgtattaata	ttgagttgag	caaggtaact	1980
cagacaattc	cactccttgt	agtatttcat	tgacaagcct	cagatttgtc	attaattcct	2040
gtctggttta	aagataccct	gattatagac	caggcatgta	taacttattt	atatatttct	2100
gttaattcct	tctgaaggca	atttctatgc	tggagagtct	tagcttgcct	actataaata	2160
acactgtgg	atcacagagg	attatgcaat	attgaccaga	taaaaatacc	atgaagatgt	2220
tgatattgta	caaaaagaac	tctaactctt	atataggaag	ttgttcaatg	ttgtcagtta	2280
tgactgtttt	ttaaaacaaa	gaactaactg	aggtcaaggg	ctaggagata	ttcaggaatg	2340
agttcactag	aaacatgatg	ccttccatag	tctccaaata	atcatattgg	aattagaagg	2400
aagtagctgg	cagagctgtg	cctgttgata	aaatcaatcc	ttaatcactt	tttcccccaa	2460
cagggtgcagt	tttgccaagg	agtgctaaag	aacttagatg	tcagtgcata	aagacatact	2520
ccaaaccttt	ccaccccaaa	tttatcaaag	aactgagagt	gattgagagt	ggaccacact	2580
gcgccaacac	agaaattatg	taagtacttt	aaaaaagatt	agatattttg	ttttagcaaa	2640
cttaaaatta	aggaagggtg	aaatat	tttag	gaaagttcca	gggtgttagga	2700
aaatgaaaca	aaacaaaata	aaaatat	tttg	tctacatgac	atttaaata	2760
acaactacta	taaatgttat	tttggactta	gactttatgc	ctgacttaag	gaatcatgat	2820
ttgaatgcaa	aaactaaata	ttaatctgaa	ccatttcttt	cttatttcag	tgtaaagctt	2880
tctgatggaa	gagagctctg	tctggacccc	aaggaaaact	gggtgcagag	ggttgtggag	2940
aagtttttga	agaggtaagt	tatatatttt	ttaattttaa	tttttcattt	atcctgagac	3000
atataatcca	aagtcagcct	ataaatttct	ttctgttgct	aaaaatcgtc	attaggtatc	3060

tgcctttttg gttaaaaaaa aaggaatagc atcaatagtg agtttggtgt acttatgacc	3120
agaaagacca tacatagttt gcccaggaaa ttctgggttt aagcttgtgt cctatactct	3180
tagtaaagtt ctttgtcact ccagtagtg toctatttta gatgataatt tctttgatct	3240
ccctatttat agttgagaat atagagcatt tctaacacat gaatgtcaaa gactatattg	3300
acttttcaag aaccctactt tccttcttat taaacatagc tcatctttat atttttaatt	3360
ttatttttagg gctgagaatt cataaaaaaa ttcattctct gtggtatcca agaatacagt	3420
aagatgccag tgaaacttca agcaaatacta cttcaacact tcatgtattg tgtgggtctg	3480
ttgtagggtt gccagatgca atacaagatt cctgggttaa tttgaatttc agtaaacaat	3540
gaatagtttt tcattgtacc atgaaatata cagaacatac ttatatgtaa agtattattt	3600
atttgaatct acaaaaaaca acaataatt tttaaatata aggattttcc tagatattgc	3660
acgggagaat atacaaatag caaaattggg ccaagggcca agagaatata cgaactttaa	3720
tttcaggaat tgaatgggtt tgctagaatg tgatatttga agcatcacat aaaaatgatg	3780
ggacaataaa ttttgccata aagtcaaatt tagctggaaa tcctggattt ttttctgtta	3840
aatctggcaa ccctagtctg ctagccagga tccacaagtc cttgttccac tgtgccttgg	3900
tttctccttt atttctaagt ggaaaaagta ttagccacca tcttacctca cagtgatgtt	3960
gtgaggacat gtggaagcac ttttaagtttt ttcatacata cataaattat tttcaagtgt	4020
aacttattaa cctattttatt atttatgtat ttattttaagc atcaaataat tgtgcaagaa	4080
tttggaaaaa tagaagatga atcattgatt gaatagttat aaagatgtta tagtaaattt	4140
attttatttt agatattaaa tgatgtttta ttagataaat ttcaatcagg gtttttagat	4200
taaacaaaca aacaattggg taccagtta aattttcatt tcagatatata aacaaataat	4260
tttttagtat aagtacatta ttgtttatct gaaattttta ttgaactaac aatcctagtt	4320
tgatactccc agtcttgtca ttgccagctg tgttggtagt gctgtgttga attacggaat	4380
aatgagttag aactattaaa acagccaaaa ctccacagtc aatattagta atttcttgct	4440
ggttgaaact tgtttattat gtacaaatag attcttataa tattatttaa atgactgcat	4500
ttttaaatat aaggctttat atttttaact ttagtgtttt tatgtgctct ccaaattttt	4560
tttactgttt ctgattgtat ggaaatataa aagtaaataat gaaacattta aaatataatt	4620
tgttgtcaaa gtaatcaagt gtttgtcttt tttttagttt tagcttattg ggattctctt	4680
tgtttatatt taaaattata ctttgattta gaaaacataa atgcttcccc ttagcatttt	4740
gttatggaaa attacaaact tttattttta gaaaacagaa ctctttcca gaaatagggt	4800
acaaacagta gtgtcctcca cagaatgttg gaaatgtttt caactcccca ctgtatacta	4860

tcttgctaataagtcctgtcttcagatttcgattaaccgggttggtatgtctgtgcacttta4920
 gcatagctggacattaaagaggaaagagagtacatattataagttgcttctagtaactg4980
 aggagtaaaa ctgataaatgtgaggcaaag aagtttaaaa tatgggttaa gcctaagcat5040
 atttgcaaac aaatcaaaca atactctgag aagtaaaaac ataattatatt aattaacaaa5100
 tttcagtggataaatatttat aacaaattag acacagttga aaataaaatt agaaaactag5160
 aaaatagaacaaaagaaacttctggaattca5191

<210> 52
 <211> 99
 <212> PRT
 <213> Homo sapiens

<400> 52

Met Thr Ser Lys Leu Ala Val Ala Leu Leu Ala Ala Phe Leu Ile Ser
 1 5 10 15

Ala Ala Leu Cys Glu Gly Ala Val Leu Pro Arg Ser Ala Lys Glu Leu
 20 25 30

Arg Cys Gln Cys Ile Lys Thr Tyr Ser Lys Pro Phe His Pro Lys Phe
 35 40 45

Ile Lys Glu Leu Arg Val Ile Glu Ser Gly Pro His Cys Ala Asn Thr
 50 55 60

Glu Ile Ile Val Lys Leu Ser Asp Gly Arg Glu Leu Cys Leu Asp Pro
 65 70 75 80

Lys Glu Asn Trp Val Gln Arg Val Val Glu Lys Phe Leu Lys Arg Ala
 85 90 95

Glu Asn Ser

<210> 53
 <211> 4663
 <212> DNA
 <213> Homo sapiens

<400> 53

ccccggaggc agaggttgca gcgaacctgg attgtgccac cgcactccag cctggtgaca60

gagggagact ctgtctcaaa aaaaaaaaaa aaaaaaaag aaatgttact agtatgtagt120

aagttctcag taaatgttag ctactatact ctttcaagtg ctgggttttt acttgatgtc180

atacagtgtt atataagatc tccaaagata ctgaggagtc ctcaaggcca attttaacaa	240
gcatggttgc cgcattcttg tgcttatagt tgaacatttc ttctttcaga cacttgcaca	300
aagtgatact tctaagatgc atttgcatta ggtggcaaac ttcatcctgg gtatgaaaaa	360
cattgagatt tgggaataaa gcatagtaag actgaggttg caattactaa aggaaaaccc	420
caacagagat aagtgaagtt ctgcaatatc atgcaccctc cccaacccg ctctgtctcc	480
ccaggccccc cttcgttaga acacccatga ctggctatat tatatcagca tttcccataa	540
tgtaaaaagg gaaaatacag acctgggcgt tcatggaaag tattctaact ctcaaacca	600
gaatccctgt ctttgaattt tttttcttgg tttttagatc ttttaacttt ccttcagcat	660
ttcagtactc aactttttga aaatcatctt ttctgaggaa tgatatttcc tggcacagca	720
tcatctctgt caagtgactc agtttgattt ttttgtttgt tagtataaag tggccccaac	780
ttacagagaa aaagtgggct cttggatatca gtttgatgtc agggtttttc cgtgtttgag	840
agggagcttt aaataccact cgatttgaag gtgtctgcaa gcgagctcca gtccgctgtc	900
aagatgcttc tggccatggt ccttacctct gccctgctcc tgtgctccgt ggcaggccag	960
gggtgtccaa ccttggcggg gatcctggac atcaacttcc tcatcaacaa gatgcaggta	1020
ggctgcaggg ggagcccatg ggaaagacag ctactgacaa agtgaaatat gtatgaggat	1080
gaaaaaactc ggggctgact aaaggttctt atctctctat ctactttagg aagatccagc	1140
ttccaagtgc cactgcagtg ctaatgtgag tgaatgctct ttaagaactt tccaaattaa	1200
ttttaatttt cacatctgga atcttcactc tgaaatttcc cttgcagggtg accagttgtc	1260
tctgtttggg cattccctct gtaagtatag tgaaataaca taatgttgac cttggatttt	1320
tttggtttgt ttttaagtaa aaataagttg ctttatttaa tatttaatgt tatacattgt	1380
tgcttaattt aattgttaca gattagtatt ccctgttaaa accacattgt taaaattat	1440
tcccttttaa aactacgac ttgaaatcct atattatgaa catttctttg tatttaatta	1500
actttatgcc tcttgagaag tttgaacact tttcaacatt aaaaaagaa tcctgaatat	1560
cttttttagat aggtggccat gtgcacaatt aaataaaact ggaactaagg atataataat	1620
tgctgtagct catatcatat tgctttctaa ctcatcttact gataactcta gagttgtgaa	1680
acaatgtaaa taaaatgaca actccttato tttcatctgt catgaatgat ctatgcgcta	1740
tacctcccc tccctgctc ctcccttctt cccaccacc ctgttgtctg tctagctgat	1800
tagagtgact gttggtttga atgctgccct ctgggcaggt agaggatctg aggttgtgag	1860
tggaaggagg gcttccagag ggccactgcc cactacggca ggaaggatgg gtggcaggaa	1920
agttctgatt cctaattcaa actcctgggt agggtgagga ggaggcactt ctccaaggtg	1980

cagtgccttta	ttctttctca	tgcaaggcct	gggagaatct	gaagaatctg	agcttcttgc	2040
cctggctagg	gtaagacatc	gcacccatcg	cgggccatcc	attagatgag	aagaggatag	2100
agtgcccttct	gggcaggaac	caggcagaca	gcacagcccc	tgtcccttgg	agtaccgtcc	2160
atgttttttag	ctgctgctga	aataccagct	gcattcaatt	gtcacatccc	attagctggt	2220
gtgaaaaggc	ttttcctcac	tctgcacttt	cagacttaca	agccttgaag	ccgggaagca	2280
cccgttgaaa	agaacattca	gagccgacta	tttcagggcc	cagagccctc	atgtttcctg	2340
gatgtaacat	acaggaagtc	tcctccaggg	gatgtcactg	tggaaaaatg	gcacccctt	2400
taaatacggg	agatcacttc	ctacattggc	aagggaacctg	tctaaaaata	atgcaagttt	2460
gagtaatggt	gattaaataa	aaatcatctc	tattatattg	ctctttgtga	tatatttcca	2520
aagctgtcct	cagaatattt	ctttgaataa	atccttacta	tttaccagga	caactgcacc	2580
agaccatgct	tcagtgagag	actgtctcag	atgaccaata	ccaccatgca	aacaagatac	2640
ccactgattt	tcagtccggg	gaaaaaatca	gttgaagtac	taaagaacaa	caagtgtcca	2700
gtaagtttgt	tttcatatgt	gatatgttcc	tgttggtgat	ttctatgtga	atggtgatgc	2760
caaccctggt	tgaacacaaa	aggatgataa	agttggaatt	ggtagttcaa	ggttgataaa	2820
agacatctaa	gaattttaat	cagaagtaat	ataattaaag	tgagatccac	tgaacaata	2880
gaattaaagt	gagatagatc	attgttcctg	acgaggccat	ttacttctct	ctactatgga	2940
ataatgaaag	aatcctttct	gagtgttaatt	agaagctaca	atctagagaa	tcagggatgt	3000
agctcacata	atactaaatt	atcctagaga	ttcaatgtac	taactgaatg	gatgttggtt	3060
acagggatth	ttttttcctg	ttggttaagg	aggttttgtt	ttgttttgga	gacagagtct	3120
tgtctgttg	cccaggctgg	agtgcagtgg	tgccatctga	gctcactgca	gcctctgcct	3180
cccgggttca	agtgattatc	ctgcctcagc	ctcccgagta	gctggcatta	cagggtgcgtg	3240
ccaccatgcc	tggctaattt	ttgtattttt	aatagagatg	gggtttcacc	atgttggtcca	3300
ggttgctctc	caactcctga	actcaagtga	tttgcccgcc	ttgacctccc	aaagtgctgg	3360
gatgacaggt	gtgagccacc	atgcctggcc	tgcattaagg	aggtatttaa	agggcaatgc	3420
accaggtca	aggtggaagc	ttgctactca	tcctgaatgc	ccatccacac	attcttttct	3480
tcagcatata	ccctagtccc	tgacagcaga	ctgggatggc	aagttaggta	gaggtgacct	3540
ccctgtgttt	tttggttatt	agcatctcca	cacaagatcc	tagaaggctg	aaagccctga	3600
gctcagctgt	ttagctgcat	gcgtttctac	catcaatggc	atctagtctt	aagtgtttaa	3660
tatatgctgt	ctcactgaat	aaatacatac	cttagggaca	attattcaat	ttattactct	3720
cagtgagggt	aactaatttg	cctaaggctg	catatttgat	aagtggcaga	gctgagattt	3780

gaactcaggc ctatatgacc tcagagcccc actcttagcc attgtactgt caaatgacct 3840
 tggaaagaca acctaaaagg ataatgatac aatttttaggc ctcaaagagt cccagaaaa 3900
 ggcttttctct aatgcagaga tttagggcca cttaataggg gtgtgtgtgt gtgtgtgtgt 3960
 gtgtgtgtgt gtgtgtgtgt gtgtgtaaag acccctgaaa tccaatttga ggtcaaccac 4020
 ctatgctgtc tttacaccac atgagctagc ctggacctgc ccacctatct gctctgtgtc 4080
 tcaagccact tcccttccca tccccacaat cctcaccacc gactctggct cttggcaggt 4140
 aggcttctgg ggctgcttgg ctctacatca tttgagtcac tctgtcctta tcaactttca 4200
 tccccacagt atttttcctg tgaacagcca tgcaaccaa ccacggcagg caacgcgctg 4260
 acatttctga agagtcttct ggaaattttc cagaaagaaa agatgagagg gatgagaggc 4320
 aagatatgaa gatgaaatat tatttatcct atttattaaa tttaaaaagc tttctcttta 4380
 agttgctaca atttaaaaat caagtaagct actctaaatc agtatcagtt gtgattatct 4440
 gtttaacatt gtatgtcttt attttgaaat aaatacatat gtggaaaaaa caacatgagc 4500
 tgggtctcttg gcaattatct atttcttgct gctcagaaca aagaaagcta caagtgttgt 4560
 taaggggaag aatagatcag agactcctgt aggagtctct gtgataagac tcctgatgct 4620
 gaatacagac cctcaggctc ataggctgtg gctggagctg cag 4663

<210> 54
 <211> 140
 <212> PRT
 <213> Homo sapiens

<400> 54

Met Val Leu Thr Ser Ala Leu Leu Leu Cys Ser Val Ala Gly Gln Gly
1 5 10 15

Cys Pro Thr Leu Ala Gly Ile Leu Asp Ile Asn Phe Leu Ile Asn Lys
20 25 30

Met Gln Glu Asp Pro Ala Ser Lys Cys His Cys Ser Ala Asn Val Thr
35 40 45

Ser Cys Leu Cys Leu Gly Ile Pro Ser Asp Asn Cys Thr Arg Pro Cys
50 55 60

Phe Ser Glu Arg Leu Ser Gln Met Thr Asn Thr Thr Met Gln Thr Arg
65 70 75 80

Tyr Pro Leu Ile Phe Ser Arg Val Lys Lys Ser Val Glu Val Leu Lys
85 90 95

Asn Asn Lys Cys Pro Tyr Phe Ser Cys Glu Gln Pro Cys Asn Gln Thr
 100 105 110

Thr Ala Gly Asn Ala Leu Thr Phe Leu Lys Ser Leu Leu Glu Ile Phe
 115 120 125

Gln Lys Glu Lys Met Arg Gly Met Arg Gly Lys Ile
 130 135 140

<210> 55
 <211> 4089
 <212> DNA
 <213> Homo sapiens

<400> 55
 atgcaccctc caaaatctat ttgcataagc acacacacac acacacacac acacacccca 60
 gcagttcttg cctgccaga ttctctgca gctaaagtga tgaaacttac tgggcggagc 120
 ttctataaaa gattattagg gtctcctggg ttggtgtgcc tttaaacctt tggactttac 180
 cacctcctat ctctcctatc tccttgcaac aaagggttagg agaacaagaa tgcagaaaaa 240
 acgggtcctg gatgacatct gagggcctgc tttgggcttc ttgatgagtg agacagaaaa 300
 taaaatacaa cccctctttt taaaagccat gcttactcag gttttccttc atttgagct 360
 aaatacagaa atgagagaat attttgagc agggatggaa gaagagaggt attccccttc 420
 ccacaacctt ctgatttccc agtacatccc cacttgaaa aattcattta aaatcagtat 480
 aataagcatt gattagatgc ctactatgca tctgggcttg agggcaaact ggactcaggc 540
 cttttggcct caagaagctc acagtgtgag agtggcattt gtgtcctctt gaaattcaca 600
 ggactaaatt gtgccaggc tgacattcta tccatccata ggtgcctgcc ttctcacttc 660
 cctctcttca tgggtctttg ccttgtaaca aaatccaaac ccaaactctc tcacatgtga 720
 gtgttggcat tcatgtctca gacatgacct atgggcttgg gacttttccc cgtggacccc 780
 agtgactttt cagatgaaca ggtatcttca aaaacttgag aaataggagt cctgtttgtt 840
 gttcttgttg ctttgtcaat ataaggacac agggctctta ttcaaagtgt catatctatc 900
 tcttgacaga aatactatga gacatattga tggagaagcc gttatctcca tatgctaaat 960
 gaggacttgc accagggaac ttgccatgg ttctctccaa ccacttaaat tctgaaattt 1020
 tgaaatgaga gtggacagta atttcaaata aatggggaaa gaatcaaata ttcagcaaat 1080
 ggcttgagat aattagctac acatttcaga acaataaag aagtcagatc cgggccgggc 1140
 acagtggctc atgcctgtaa tctcagcaat ctgggaggcc aaggcgggcg gatcataagg 1200

tcaggagatc gagaccatcc tggttaacac agtgaaaccc cgtctctaataaaaaatacaa	1260
aaaaaaataa aaaaacttag ccgggcgtgg tgccaggcgc ctgtagtccc agctactcgg	1320
gacgctgagg caggagaatg gcttgaactc gggaggcaga gcttgcaagt agctgagatc	1380
atgccactgc actccagcct gggcaacaga gcgagactct gtctcaaaaa aaaaaaagaa	1440
gtcagatcct aacctcaacc ctatttaaca gattatagat gaaagaaagg taaaaatggc	1500
ttttacatac ctcccttctc cctgacattt tgtatgtgtg tgtgtgtgta tttacacaca	1560
catctcatat aaggaaattg aagggaggct gcctgcatcc ctgagtcact ctccctctcc	1620
ttctgaatgc ttacctgtgc ccagaccacc tccttagcct cgcacctcc aggcttacag	1680
ggcactcttc tatgccatc ccaagtatag ctgatacctt ccaagggcca gacttggtgc	1740
taagtaccaa gtacgcaaag attaataaaa caatgtcctg tttcaggag ctcaaagctg	1800
attcggcagg gcatggtgtg tacatgaatg ataaccacgt agggttgcag gtttcttagt	1860
gaggtaagca caaggcaaga tgggaaacaa aggaaggagg ggttcacagc ctcaccaga	1920
gtccagaacc cctggcctgc ctggtgccca tgctgagtcc acttctggaa caccagctc	1980
agagaggggg ttagacctgc aggctaacac agacacagcc cagaaaaccc aggagccgag	2040
ggggaaggag aaaggtgcaa gaaggggaaa ccaggtcct ggtcccttc tctctgcttc	2100
ctggcagcag aactcagaca gaaccttaa gccagtctaa gtctggcagg accagtaagt	2160
tctgagttag ctccatacta gtttctagca ggctctttct cacttctga ttcttaggtt	2220
tctacattga cactccctga agagttggga agagacacca cagtccctg acctgatcc	2280
ataggtcaca cagcagggac atccacaggg tgggcgtggg ccctctcatc cctccctccc	2340
actcacttca cgctggctgg gccccagggt gtttgacccc cttgcagtga gtgaccttct	2400
ctagtgcagc aagctcagaa cctgctgcca ctggagttgt ccattgctg atgcagaaag	2460
gtgaagaact agcagaacac tggaaatgcc ctccatctgg gtccatggct acttaagctc	2520
aatgctccct ggcaggcagg aggacaggtg ctattgcctt gttgggacag atgaaaaaca	2580
gacacaggga ggatgagtga tttgccctga ctatagagtg gcagggccaa ggcagagccc	2640
aggcctcctg cacctaggtc agtgttcttc ccagttacag tctaaactgg aatggcaggc	2700
aaagccctg tggaagggga aggtgaaggc tcaatcaaag gatccccaga gactttccag	2760
atatctgaag aagtctgat gtcactgcc cggtccttcc ccaggtagag caacactcct	2820
cgccgcaacc caactggctc cccttacctt ctacacacac acacacacac acacacacac	2880
acacacacac acacaaatcc aagacaacac tactaaggct tctttgggaa ggggaagtag	2940
ggataggtaa gaggaaagta agggacctcc tatccagcct ccatggaatc ctgacttctt	3000

```

ttccttggtta tttcaacttc ttccaccoca tcttttaaac tttagactcc agccacagaa 3060
gcttacaact aaaagaaact ctaaggccaa tttaatccaa ggtttcattc tatgtgctgg 3120
agatggtgta cagtaggggtg aggaaaccaa attctcagtt ggcactggtg tacccttgta 3180
caggtgatgt aacatctctg tgccctcagtt tgctcactat aaaatagaga cggtaggggt 3240
catggtgagc actacctgac tagcatataa gaagctttca gcaagtgcag actactctta 3300
cccacttccc ccaagcacag ttgggggtggg ggacagctga agaggtggaa acatgtgcct 3360
gagaatccta atgaaatcgg ggtaaaggag cctggaacac atcctgtgac cccgcctgtc 3420
ctgtaggaag ccagtctctg gaaagtaaaa tggaagggtc gcttgggaaac tttgaggata 3480
tttagccac cccctcattt ttacttgggg aaactaaggc ccagagacct aaggtgactg 3540
cctaagttag caaggagaag tcttgggtat tcatcccagg ttgggggggac ccaattattt 3600
ctcaatccca ttgtattctg gaatgggcaa tttgtccacg tctctgtgac ctaggaacac 3660
gcgaatgaga acccacagct gagggcctct gcgcacagaa cagctgttct cccaggaaa 3720
tcaacttttt ttaattgaga agctaaaaaa ttattctaag agaggtagcc catcctaaaa 3780
atagctgtaa tgcagaagtt catgttcaac caatcatttt tgcttacgat gcaaaaattg 3840
aaaactaagt ttattagaga ggttagagaa ggaggagctc taagcagaaa aaatcctgtg 3900
ccgggaaacc ttgattgtgg ctttttaatg aatgaagagg cctccctgag cttacaatat 3960
aaaaggggga cagagaggtg aaggtctaca catcaggggc ttgctcttgc aaaaccaaac 4020
cacaagacag acttgcaaaa gaaggcatgc acagctcagc actgctctgt tgcctggtcc 4080
tcctgactg 4089

```

```

<210> 56
<211> 14
<212> PRT
<213> Homo sapiens

```

```
<400> 56
```

```

Met His Ser Ser Ala Leu Leu Cys Cys Leu Val Leu Leu Thr
1           5           10

```

```

<210> 57
<211> 762
<212> DNA
<213> Homo sapiens

```

```
<400> 57
```

```

atgtggcccc ctgggtcagc ctcccagcca ccgcctcac ctgccgcggc cacaggtctg 60
catccagcgg ctgcctctgt gtccctgcag tgccggctca gcatgtgtcc agcgcgcagc 120

```

ctcctccttg tggctaccct ggtcctcctg gaccacctca gtttggccag aaacctcccc 180
gtggccactc cagacccagg aatgttccca tgccttcacc actcccaaaa cctgctgagg 240
gccgtcagca acatgctcca gaaggccaga caaactctag aattttaccc ttgcacttct 300
gaagagattg atcatgaaga tatcacaaaa gataaaacca gcacagtgga ggcctgttta 360
ccattggaat taaccaagaa tgagagttgc ctaaattcca gagagacctc ttccataact 420
aatgggagtt gcttggcctc cagaaagacc tcttttatga tggccctgtg ccttagtagt 480
atztatgaag acttgaagat gtaccaggtg gagttcaaga ccatgaatgc aaagcttctg 540
atggatccta agaggcagat ctttctagat caaaacatgc tggcagttat tgatgagctg 600
atgcaggccc tgaatttcaa cagtgagact gtgccacaaa aatcctccct tgaagaaccg 660
gatttttata aaactaaaat caagctctgc atacttcttc atgctttcag aattcgggca 720
gtgactattg atagagtgat gagctatctg aatgcttcc aa 762

<210> 58
<211> 253
<212> PRT
<213> Homo sapiens

<400> 58

Met Trp Pro Pro Gly Ser Ala Ser Gln Pro Pro Pro Ser Pro Ala Ala
1 5 10 15

Ala Thr Gly Leu His Pro Ala Ala Arg Pro Val Ser Leu Gln Cys Arg
20 25 30

Leu Ser Met Cys Pro Ala Arg Ser Leu Leu Leu Val Ala Thr Leu Val
35 40 45

Leu Leu Asp His Leu Ser Leu Ala Arg Asn Leu Pro Val Ala Thr Pro
50 55 60

Asp Pro Gly Met Phe Pro Cys Leu His His Ser Gln Asn Leu Leu Arg
65 70 75 80

Ala Val Ser Asn Met Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr
85 90 95

Pro Cys Thr Ser Glu Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys
100 105 110

Thr Ser Thr Val Glu Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu
115 120 125

Ser Cys Leu Asn Ser Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys
 130 135 140

Leu Ala Ser Arg Lys Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser
 145 150 155 160

Ile Tyr Glu Asp Leu Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn
 165 170 175

Ala Lys Leu Leu Met Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn
 180 185 190

Met Leu Ala Val Ile Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser
 195 200 205

Glu Thr Val Pro Gln Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys
 210 215 220

Thr Lys Ile Lys Leu Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala
 225 230 235 240

Val Thr Ile Asp Arg Val Met Ser Tyr Leu Asn Ala Ser
 245 250

<210> 59
 <211> 471
 <212> DNA
 <213> Homo sapiens

<400> 59
 tactttggca agcttgaatc taaattatca gtcataagaa atttgaatga ccaagttctc 60
 ttcattgacc aaggaaatcg gcctctatct gaagatatga ctgattctga ctgtagagat 120
 aatgcacccc ggaccatatt tattataagt atgtataaag atagccagcc tagaggtatg 180
 gctgtaacta tctctgtgaa gtgtgagaaa atttcaactc tctcctgtga gaacaaaatt 240
 atttccttta aggaaatgaa tcctcctgat aacatcaagg atacaaaaag tgacatcata 300
 ttctttcaga gaagtgtccc aggacatgat aataagatgc aatttgaatc ttcatcatac 360
 gaaggatact ttctagcttg tgaaaaagag agagaccttt ttaaactcat ttgaaaaaa 420
 gaggatgaat tgggggatag atctataatg ttcactgttc aaaacgaaga c 471

<210> 60
 <211> 1831
 <212> DNA

<213> Homo sapiens

<400> 60

gctggagtgc aatggtgaaa ttatagcaga ctgcagtctt caactcctga cctcaagcaa	60
ttgtcctgcc tcctcaactt cctgaactaca ggtgtgcatg aggactacag gcaggcatgt	120
gccaacacat gcagcttttt tttttttttt ttttcagaga tgtggtctcg ctttgttgcc	180
tacactggtc tcaaactctt ggccctcaagg gatcctccca cctcggcttc ccaaagtgca	240
gagattacag tctcattttt tctctctctg cattaatcaa gaatgagaga accctccagg	300
ggacaagatg aaggggaaat agatgatgtg caaagaaatc cttgctttat gaggggaaaa	360
agtgttcctc atgaagttca acaaaatgat gcaggtaaag cagttagcta gcacctggca	420
catggcagac actcatagct gcctaaggca ttggagaact ggatcgtgct gcagccagag	480
gcacctgcag agcctcatgg gctggctgct gcagggtgtg gctgattgag agtgcttttg	540
tgagttggcc tgcagggtac acttggtaac gtgccacagc tctcaggaaa gtgacctaa	600
ttggattttt ctgcatggac atagaattgc aaaaaattct catttgcatg gagatgggga	660
gtttattttt cctagaagct gcatgtcaag acccagaaga aagaggcatt tcataataat	720
gattaatcag ctatatctta aagaagaaag aaaacaatta aggaaataca atactaagaa	780
aacaagggga aaaaacaatc tccccagggt ggatccaccc agcaaaccctt gacagcattt	840
cctcttatcc acctgaataa aaatgaccag ccctttccaa atggcagaga gcaactgagag	900
gagacacaag gagcagcccg caagcaccaa gtgagaggca tgaagttaca gtgtgtttcc	960
ctttggctcc tgggtacaat actgatattg tgctcagtag acaaccacgg tctcaggaga	1020
tgtctgattt ccacagacat gcaccatata gaagagagtt tccaagaaat caaaagagcc	1080
atccaagcta aggacacctt cccaaatgtc actatcctgt ccacattgga gactctgcag	1140
atcattaagc ccttagatgt gtgctgctgt accaagaacc tcctggcggt ctacgtggac	1200
agggtgttca aggatcatca ggagccaaac cccaaaatct tgagaaaaat cagcagcatt	1260
gccaaactct tcctctacat gcagaaaact ctgoggcaat gtcaggaaca gaggcagtgt	1320
cactgcaggc aggaagccac caatgccacc agagtcatcc atgacaacta tgatcagctg	1380
gagggtccacg ctgctgccat taaatccctg ggagagctcg acgtctttct agcctggatt	1440
aataagaatc atgaagtaat gttctcagct tgatgacaag gaacctgtat agtgatccag	1500
ggatgaacac cccctgtgcg gtttactgtg ggagacagcc caccttgaag ggggaaggaga	1560
tggggaaggc cccttgcagc tgaaagtccc actggctggc ctcaggctgt cttattccgc	1620
ttgaaaatag ccaaaaagtc tactgtggta tttgtaataa actctatctg ctgaaagggc	1680
ctgcaggcca tcctgggagt aaagggtgc cttcccatct aatttattgt aaagtcatat	1740

agtcacatgtc tgtgatgtga gccaaagtgat atcctgtagt acacattgta ctgagtggtt 1800
 tttctgaata aattccatat ttacctatg a 1831

<210> 61
 <211> 177
 <212> PRT
 <213> Homo sapiens

<400> 61

Met Lys Leu Gln Cys Val Ser Leu Trp Leu Leu Gly Thr Ile Leu Ile
 1 5 10 15

Leu Cys Ser Val Asp Asn His Gly Leu Arg Arg Cys Leu Ile Ser Thr
 20 25 30

Asp Met His His Ile Glu Glu Ser Phe Gln Glu Ile Lys Arg Ala Ile
 35 40 45

Gln Ala Lys Asp Thr Phe Pro Asn Val Thr Ile Leu Ser Thr Leu Glu
 50 55 60

Thr Leu Gln Ile Ile Lys Pro Leu Asp Val Cys Cys Val Thr Lys Asn
 65 70 75 80

Leu Leu Ala Phe Tyr Val Asp Arg Val Phe Lys Asp His Gln Glu Pro
 85 90 95

Asn Pro Lys Ile Leu Arg Lys Ile Ser Ser Ile Ala Asn Ser Phe Leu
 100 105 110

Tyr Met Gln Lys Thr Leu Arg Gln Cys Gln Glu Gln Arg Gln Cys His
 115 120 125

Cys Arg Gln Glu Ala Thr Asn Ala Thr Arg Val Ile His Asp Asn Tyr
 130 135 140

Asp Gln Leu Glu Val His Ala Ala Ala Ile Lys Ser Leu Gly Glu Leu
 145 150 155 160

Asp Val Phe Leu Ala Trp Ile Asn Lys Asn His Glu Val Met Phe Ser
 165 170 175

Ala

<210> 62
 <211> 711
 <212> DNA
 <213> Homo sapiens

<400> 62
 tgggggttcca ggcggggcagc agctgcaggc tgaccttgca gcttggcgga atggactggc 60
 ctcacaacct gctgtttctt cttaccatct ccatcttcct ggggctgggc cagcccagga 120
 gccccaaaag caagaggaag gggcaagggc ggcctggggc cctggcccct ggccctcacc 180
 aggtgccact ggacctggtg tcacggatga aaccgtatgc ccgcatggag gagtatgaga 240
 ggaacatcga ggagatggtg gccagctga ggaacagctc agagctggcc cagagaaagt 300
 gtgaggtcaa cttgcagctg tggatgtcca acaagaggag cctgtctccc tggggctaca 360
 gcatcaacca cgaccccagc cgtatccccg tggacctgcc ggaggcacgg tgccctgtgtc 420
 tgggctgtgt gaaccccttc accatgcagg aggaccgcag catggtgagc gtgccggtgt 480
 tcagccaggt tcctgtgcgc cgccgcctct gcccgccacc gccccgcaca gggccttgcc 540
 gccagcgcgc agtcatggag accatcgctg tgggctgcac ctgcatcttc tgaattacct 600
 ggcccagaag ccaggccagc agcccagac catcctcctt gcacctttgt gccaagaaag 660
 gcctatgaaa agtaaact gacttttgaa agcaaaaaa aaaaaaaaaa a 711

<210> 63
 <211> 180
 <212> PRT
 <213> Homo sapiens

<400> 63
 Met Asp Trp Pro His Asn Leu Leu Phe Leu Leu Thr Ile Ser Ile Phe
 1 5 10 15
 Leu Gly Leu Gly Gln Pro Arg Ser Pro Lys Ser Lys Arg Lys Gly Gln
 20 25 30
 Gly Arg Pro Gly Pro Leu Ala Pro Gly Pro His Gln Val Pro Leu Asp
 35 40 45
 Leu Val Ser Arg Met Lys Pro Tyr Ala Arg Met Glu Glu Tyr Glu Arg
 50 55 60
 Asn Ile Glu Glu Met Val Ala Gln Leu Arg Asn Ser Ser Glu Leu Ala
 65 70 75 80
 Gln Arg Lys Cys Glu Val Asn Leu Gln Leu Trp Met Ser Asn Lys Arg

85

90

95

Ser Leu Ser Pro Trp Gly Tyr Ser Ile Asn His Asp Pro Ser Arg Ile
 100 105 110

Pro Val Asp Leu Pro Glu Ala Arg Cys Leu Cys Leu Gly Cys Val Asn
 115 120 125

Pro Phe Thr Met Gln Glu Asp Arg Ser Met Val Ser Val Pro Val Phe
 130 135 140

Ser Gln Val Pro Val Arg Arg Arg Leu Cys Pro Pro Pro Pro Arg Thr
 145 150 155 160

Gly Pro Cys Arg Gln Arg Ala Val Met Glu Thr Ile Ala Val Gly Cys
 165 170 175

Thr Cys Ile Phe
 180

<210> 64
 <211> 1049
 <212> DNA
 <213> Mus musculus

<400> 64
 aaaacaacag gaagcagctt acaaactcgg tgaacaactg aggggaaccaa accagagacg 60
 cgctgaacag agagaatcag gctcaaagca agtggaagtg ggcagagatt ccaccaggac 120
 tggtgcaagg cgcagagcca gccagatttg agaagaaggc aaaaagatgc tggggagcag 180
 agctgtaatg ctgctgttgc tgctgccctg gacagctcag ggcagagctg tgctggggg 240
 cagcagccct gcctggactc agtgccagca gctttcacag aagctctgca cactggcctg 300
 gagtgcacat ccactagtgg gacacatgga tctaagagaa gagggagatg aagagactac 360
 aaatgatgtt ccccatatcc agtgtggaga tggctgtgac cccaaggac tcagggacaa 420
 cagtcagttc tgcttgcaaa ggatccacca gggctctgatt ttttatgaga agctgctagg 480
 atcggatatt ttcacagggg agccttctct gctccctgat agccctgtgg gccagcttca 540
 tgctcccta ctgggcctca gccaaactct gcagcctgag ggtcaccact gggagactca 600
 gcagattcca agcctcagtc ccagccagcc atggcagcgt ctcttctcc gcttcaaaat 660
 ccttcgcagc ctccaggcct ttgtggctgt agccgcccg gtctttgcc atggagcagc 720
 aaccctgagt ccctaaaggc agcagctcaa ggatggcact cagatctcca tggcccagca 780
 aggccaagat aaatctacca cccaggcac ctgtgagcca acaggttaat tagtccatta 840

attttagtgg gacctgcata tgttgaaaat taccaatact gactgacatg tgatgctgac 900
 ctatgataag gttgagtatt tattagatgg gaagggaaat ttggggatta tttatcctcc 960
 tggggacagt ttggggagga ttatttattg tatttatatt gaattatgta cttttttcaa 1020
 taaagtctta tttttgtggc taaaaaaaaa 1049

<210> 65
 <211> 189
 <212> PRT
 <213> Mus musculus

<400> 65

Met Leu Gly Ser Arg Ala Val Met Leu Leu Leu Leu Leu Pro Trp Thr
 1 5 10 15

Ala Gln Gly Arg Ala Val Pro Gly Gly Ser Ser Pro Ala Trp Thr Gln
 20 25 30

Cys Gln Gln Leu Ser Gln Lys Leu Cys Thr Leu Ala Trp Ser Ala His
 35 40 45

Pro Leu Val Gly His Met Asp Leu Arg Glu Glu Gly Asp Glu Glu Thr
 50 55 60

Thr Asn Asp Val Pro His Ile Gln Cys Gly Asp Gly Cys Asp Pro Gln
 65 70 75 80

Gly Leu Arg Asp Asn Ser Gln Phe Cys Leu Gln Arg Ile His Gln Gly
 85 90 95

Leu Ile Phe Tyr Glu Lys Leu Leu Gly Ser Asp Ile Phe Thr Gly Glu
 100 105 110

Pro Ser Leu Leu Pro Asp Ser Pro Val Gly Gln Leu His Ala Ser Leu
 115 120 125

Leu Gly Leu Ser Gln Leu Leu Gln Pro Glu Gly His His Trp Glu Thr
 130 135 140

Gln Gln Ile Pro Ser Leu Ser Pro Ser Gln Pro Trp Gln Arg Leu Leu
 145 150 155 160

Leu Arg Phe Lys Ile Leu Arg Ser Leu Gln Ala Phe Val Ala Val Ala
 165 170 175

Ala Arg Val Phe Ala His Gly Ala Ala Thr Leu Ser Pro
 180 185

<210> 66
 <211> 732
 <212> DNA
 <213> Homo sapiens

<400> 66
 atggggccaga cggcaggcga ccttggtctgg cgtctcagcc tgttgctgct tcccttgctc 60
 ctggttcaag ctggtgtctg gggattccca aggccccag ggaggcccca gctgagcctg 120
 caggagctgc ggagggagtt cacagtcagc ctgcatctcg ccaggaagct gctctccgag 180
 gttcggggcc aggcccaccg ctttgcgga tctcacctgc caggagtga cctgtacctc 240
 ctgcccctgg gagagcagct cctgatgtt tccctgacct tccaggcctg gcgccgcctc 300
 tctgaccggg agcgtctctg ctccatctcc accacgcttc agcccttcca tgccccgctg 360
 ggagggtctg ggaccagggg ccgctggacc aacatggaga ggatgcagct gtggggccatg 420
 aggctggacc tccgcgatct gcagcggcac ctccgcttcc aggtgctggc tgcaggattc 480
 aacctcccgg aggaggagga ggaggaagag gaggaggagg aggaggagag gaaggggctg 540
 ctcccagggg cactgggcag cgccttacag ggcccggccc aggtgtcctg gccccagctc 600
 ctctccacct accgcctgct gcactccttg gagctcgtct tatctcgggc cgtgcgggag 660
 ttgctgctgc tgtccaaggc tgggcactca gtctggccct tggggttccc aacattgagc 720
 ccccagccct ga 732

<210> 67
 <211> 243
 <212> PRT
 <213> Homo sapiens

<400> 67

Met Gly Gln Thr Ala Gly Asp Leu Gly Trp Arg Leu Ser Leu Leu Leu
 1 5 10 15

Leu Pro Leu Leu Val Gln Ala Gly Val Trp Gly Phe Pro Arg Pro
 20 25 30

Pro Gly Arg Pro Gln Leu Ser Leu Gln Glu Leu Arg Arg Glu Phe Thr
 35 40 45

Val Ser Leu His Leu Ala Arg Lys Leu Leu Ser Glu Val Arg Gly Gln
 50 55 60

Ala His Arg Phe Ala Glu Ser His Leu Pro Gly Val Asn Leu Tyr Leu
65 70 75 80

Leu Pro Leu Gly Glu Gln Leu Pro Asp Val Ser Leu Thr Phe Gln Ala
85 90 95

Trp Arg Arg Leu Ser Asp Pro Glu Arg Leu Cys Phe Ile Ser Thr Thr
100 105 110

Leu Gln Pro Phe His Ala Pro Leu Gly Gly Leu Gly Thr Gln Gly Arg
115 120 125

Trp Thr Asn Met Glu Arg Met Gln Leu Trp Ala Met Arg Leu Asp Leu
130 135 140

Arg Asp Leu Gln Arg His Leu Arg Phe Gln Val Leu Ala Ala Gly Phe
145 150 155 160

Asn Leu Pro Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu
165 170 175

Arg Lys Gly Leu Leu Pro Gly Ala Leu Gly Ser Ala Leu Gln Gly Pro
180 185 190

Ala Gln Val Ser Trp Pro Gln Leu Leu Ser Thr Tyr Arg Leu Leu His
195 200 205

Ser Leu Glu Leu Val Leu Ser Arg Ala Val Arg Glu Leu Leu Leu Leu
210 215 220

Ser Lys Ala Gly His Ser Val Trp Pro Leu Gly Phe Pro Thr Leu Ser
225 230 235 240

Pro Gln Pro

<210> 68

<211> 736

<212> DNA

<213> Homo sapiens

<400> 68

ttcaagggtta cccatctcaa gtagcctagc aatattggca acatcccaat ggcctgtcc 60

ttttctttac tgatggccgt gctggtgctc agctacaaat ccatctgttc tctgggctgt 120

gatctgcctc agaccacag cctgggtaat aggaggcct tgatactcct ggcacaaatg 180

ggaagaatct ctcctttctc ctgcctgaag gacagacatg actttggatt ccccaggag 240
 gagtttgatg gcaaccagtt ccagaaggct caagccatct ctgtcctcca tgagatgatc 300
 cagcagacct tcaatctctt cagcaciaaag gactcatctg ctacttggga acagagcctc 360
 ctagaaaaat tttccactga acttaaccag cagctgaatg acctggaagc ctgcgtgata 420
 caggagggttg ggggtggaaga gactcccttg atgaatgtgg actccatcct ggctgtgaag 480
 aaatacttcc aaagaatcac tctttatctg acagagaaga aatacagccc ttgtgcctgg 540
 gaggttgatc gagcagaaat catgagatcc ttctctttat caaaaatttt tcaagaaaga 600
 ttaaggagga aggaatgaaa cctgtttcaa catggaaatg atctgtattg actaatacac 660
 cagtccacac ttctatgact tctgccattt caaagactca tttctcctat aaccaccgca 720
 tgagttgact caaaac 736

<210> 69
 <211> 181
 <212> PRT
 <213> Homo sapiens

<400> 69

Met Ala Val Leu Val Leu Ser Tyr Lys Ser Ile Cys Ser Leu Gly Cys
 1 5 10 15

Asp Leu Pro Gln Thr His Ser Leu Gly Asn Arg Arg Ala Leu Ile Leu
 20 25 30

Leu Ala Gln Met Gly Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp Arg
 35 40 45

His Asp Phe Gly Phe Pro Gln Glu Glu Phe Asp Gly Asn Gln Phe Gln
 50 55 60

Lys Ala Gln Ala Ile Ser Val Leu His Glu Met Ile Gln Gln Thr Phe
 65 70 75 80

Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Thr Trp Glu Gln Ser Leu
 85 90 95

Leu Glu Lys Phe Ser Thr Glu Leu Asn Gln Gln Leu Asn Asp Leu Glu
 100 105 110

Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met Asn
 115 120 125

Val Asp Ser Ile Leu Ala Val Lys Lys Tyr Phe Gln Arg Ile Thr Leu
 130 135 140

Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
 145 150 155 160

Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Lys Ile Phe Gln Glu Arg
 165 170 175

Leu Arg Arg Lys Glu
 180

<210> 70
 <211> 840
 <212> DNA
 <213> Homo sapiens

<400> 70
 acattctaac tgcaaccttt cgaagccttt gctctggcac aacaggtagt aggcgacact 60
 gttcgtgttg tcaacatgac caacaagtgt ctctccaaa ttgctctcct gttgtgcttc 120
 tccactacag ctctttccat gagctacaac ttgcttggat tcctacaaag aagcagcaat 180
 ttccagtgtc agaagctcct gtggcaattg aatgggaggc ttgaatactg cctcaaggac 240
 aggatgaact ttgacatccc tgaggagatt aagcagctgc agcagttcca gaaggaggac 300
 gccgcattga ccatctatga gatgctccag aacatctttg ctattttcag acaagattca 360
 tctagcactg gctggaatga gactattggt gagaacctcc tggctaattgt ctatcatcag 420
 ataaaccatc tgaagacagt cctggaagaa aaactggaga aagaagattt caccagggga 480
 aaactcatga gcagtctgca cctgaaaaga tattatggga ggattctgca ttacctgaag 540
 gcccaaggagt acagtcactg tgcctggacc atagtcagag tggaaatcct aaggaacttt 600
 tacttcatta acagacttac aggttacctc cgaaactgaa gatctcctag cctgtgcctc 660
 tgggactgga caattgcttc aagcattctt caaccagcag atgctgttta agtgactgat 720
 ggctaattga ctgcatatga aaggacacta gaagattttg aaatttttat taaattatga 780
 gttattttta tttattttaa ttttattttg gaaaataaat tatttttggg gcaaaagtca 840

<210> 71
 <211> 187
 <212> PRT
 <213> Homo sapiens

<400> 71

Met Thr Asn Lys Cys Leu Leu Gln Ile Ala Leu Leu Leu Cys Phe Ser

1	5	10	15
Thr Thr Ala Leu Ser Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg	20	25	30
Ser Ser Asn Phe Gln Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg	35	40	45
Leu Glu Tyr Cys Leu Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu	50	55	60
Ile Lys Gln Leu Gln Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile	65	70	75
Tyr Glu Met Leu Gln Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser	85	90	95
Ser Thr Gly Trp Asn Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val	100	105	110
Tyr His Gln Ile Asn His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu	115	120	125
Lys Glu Asp Phe Thr Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys	130	135	140
Arg Tyr Tyr Gly Arg Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser	145	150	155
His Cys Ala Trp Thr Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr	165	170	175
Phe Ile Asn Arg Leu Thr Gly Tyr Leu Arg Asn	180	185	

<210> 72
 <211> 750
 <212> DNA
 <213> Homo sapiens

<400> 72	
atggccatgc tcaggggtcca gcccgaggcc caagccaagg tggatgtgtt tcgtgaagac	60
ctctgtacca agacagagaa cctgctcggg agctatttcc ccaagaagat ttctgagctg	120
gatgcatttt taaaggagcc agctctcaat gaagccaact tgagcaatct gaaggcccca	180
ttggacatcc cagtgcctga tccagtcaag gagaaagaga aagaggagcg gaagaaacag	240

caggagaagg aagacaagga tgaaaagaag aagggggagg atgaagacaa aggtcctccc 300
 tgtggcccag tgaactgcaa tgaaaagatc gtggtccttc tgcagcgctt gaagcctgag 360
 atcaaggatg tcattgagca gctcaacctg gtcaccacct ggttgagct gcagatacct 420
 cggattgagg atggtaacaa ttttggagtg gctgtccagg agaaggtgtt tgagctgatg 480
 accagcctcc acaccaagct agaaggcttc cacactcaaa tctctaagta tttctctgag 540
 cgtggtgatg cagtgactaa agcagccaag cagcccatg tgggtgatta tcggcagctg 600
 gtgcacgagc tggatgaggc agagtaccgg gacatccggc tgatgggtcat ggagatccgc 660
 aatgcttatg ctgtgttata tgacatcatc ctgaagaact tcgagaagct caagaagccc 720
 aggggagaaa caaaggggaat gatctattga 750

<210> 73
 <211> 249
 <212> PRT
 <213> Homo sapiens

<400> 73

Met Ala Met Leu Arg Val Gln Pro Glu Ala Gln Ala Lys Val Asp Val
 1 5 10 15

Phe Arg Glu Asp Leu Cys Thr Lys Thr Glu Asn Leu Leu Gly Ser Tyr
 20 25 30

Phe Pro Lys Lys Ile Ser Glu Leu Asp Ala Phe Leu Lys Glu Pro Ala
 35 40 45

Leu Asn Glu Ala Asn Leu Ser Asn Leu Lys Ala Pro Leu Asp Ile Pro
 50 55 60

Val Pro Asp Pro Val Lys Glu Lys Glu Lys Glu Glu Arg Lys Lys Gln
 65 70 75 80

Gln Glu Lys Glu Asp Lys Asp Glu Lys Lys Lys Gly Glu Asp Glu Asp
 85 90 95

Lys Gly Pro Pro Cys Gly Pro Val Asn Cys Asn Glu Lys Ile Val Val
 100 105 110

Leu Leu Gln Arg Leu Lys Pro Glu Ile Lys Asp Val Ile Glu Gln Leu
 115 120 125

Asn Leu Val Thr Thr Trp Leu Gln Leu Gln Ile Pro Arg Ile Glu Asp

130

135

140

Gly Asn Asn Phe Gly Val Ala Val Gln Glu Lys Val Phe Glu Leu Met
145 150 155 160

Thr Ser Leu His Thr Lys Leu Glu Gly Phe His Thr Gln Ile Ser Lys
165 170 175

Tyr Phe Ser Glu Arg Gly Asp Ala Val Thr Lys Ala Ala Lys Gln Pro
180 185 190

His Val Gly Asp Tyr Arg Gln Leu Val His Glu Leu Asp Glu Ala Glu
195 200 205

Tyr Arg Asp Ile Arg Leu Met Val Met Glu Ile Arg Asn Ala Tyr Ala
210 215 220

Val Leu Tyr Asp Ile Ile Leu Lys Asn Phe Glu Lys Leu Lys Lys Pro
225 230 235 240

Arg Gly Glu Thr Lys Gly Met Ile Tyr
245

<210> 74

<211> 1669

<212> DNA

<213> Homo sapiens

<400> 74

ctccctcagc aaggacagca gaggaccagc taagagggag agaagcaact acagaccccc 60
cctgaaaaca accctcagac gccacatccc ctgacaagct gccaggcagg ttctcttctt 120
ctcacatact gacccacggc tccacctct ctccctgga aaggacacca tgagcactga 180
aagcatgatc cgggacgtgg agctggccga ggaggcgctc cccaagaaga cagggggggc 240
ccagggctcc aggcgggtgt tgttcctcag cctctttctc ttctgatcg tggcaggcgc 300
caccacgctc ttctgcctgc tgcactttgg agtgatcggc cccagaggg aagagttccc 360
cagggacctc tctetaatca gccctctggc ccaggcagtc agatcatctt ctcgaacccc 420
gagtgaacag cctgtagccc atgttgtagc aaacctcaa gctgaggggc agctccagtg 480
gctgaaccgc cgggccaatg ccctcctggc caatggcgtg gagctgagag ataaccagct 540
gggtggtgcca tcagaggggc tgtacctcat ctactcccag gtcctcttca agggccaagg 600
ctgcccctcc acctatgtgc tctcaccba caccatcagc cgcacgcgcg tctcctacca 660
gaccaaggtc aacctctct ctgccatcaa gagccctgc cagagggaga cccagaggg 720

ggctgaggcc aagccctggt atgagcccat ctatctggga ggggtcttcc agctggagaa 780
 gggtgaccga ctgagcgtg agatcaatcg gcccgactat ctgactttg ccgagtctgg 840
 gcaggtctac ttgggatca ttgccctgtg aggaggacga acatccaacc ttcccaaacy 900
 cctcccctgc cccaatccct ttattacccc ctcttcaga caccctcaac ctcttctggc 960
 tcaaaaagag aattgggggc ttagggctcg aaccaagct tagaacttta agcaacaaga 1020
 ccaccacttc gaaacctggg attcaggaat gtgtggcctg cacagtgaag tgctggcaac 1080
 cactaagaat tcaaactggg gcctccagaa ctactgggg cctacagctt tgatccctga 1140
 catctggaat ctggagacca gggagccttt ggttctggcc agaattgctgc aggacttgag 1200
 aagacctcac ctagaaattg acacaagtgg accttaggcc ttcctctctc cagatgtttc 1260
 cagacttctt tgagacacgg agcccagccc tcccattgga gccagctccc tctatttatg 1320
 tttgcacttg tgattatttta ttatttattt attatttatt tatttacaga tgaatgtatt 1380
 tatttgggag accgggggtat cctgggggac ccaatgtagg agctgccttg gctcagacat 1440
 gttttccgtg aaaacggagc tgaacaatag gctgttccca tgtagcccc tggcctctgt 1500
 gccttctttt gattatgttt tttaaaatat ttatctgatt aagttgtcta aacaatgctg 1560
 atttggtgac caactgtcac tcattgctga gcctctgctc cccaggggag ttgtgtctgt 1620
 aatcgcccta ctattcagtg gcgagaaata aagtttgctt agaaaagaa 1669

<210> 75
 <211> 233
 <212> PRT
 <213> Homo sapiens

<400> 75

Met Ser Thr Glu Ser Met Ile Arg Asp Val Glu Leu Ala Glu Glu Ala
 1 5 10 15

Leu Pro Lys Lys Thr Gly Gly Pro Gln Gly Ser Arg Arg Cys Leu Phe
 20 25 30

Leu Ser Leu Phe Ser Phe Leu Ile Val Ala Gly Ala Thr Thr Leu Phe
 35 40 45

Cys Leu Leu His Phe Gly Val Ile Gly Pro Gln Arg Glu Glu Phe Pro
 50 55 60

Arg Asp Leu Ser Leu Ile Ser Pro Leu Ala Gln Ala Val Arg Ser Ser
 65 70 75 80

Ser Arg Thr Pro Ser Asp Lys Pro Val Ala His Val Val Ala Asn Pro
85 90 95

Gln Ala Glu Gly Gln Leu Gln Trp Leu Asn Arg Arg Ala Asn Ala Leu
100 105 110

Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln Leu Val Val Pro Ser
115 120 125

Glu Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu Phe Lys Gly Gln Gly
130 135 140

Cys Pro Ser Thr His Val Leu Leu Thr His Thr Ile Ser Arg Ile Ala
145 150 155 160

Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser Ala Ile Lys Ser Pro
165 170 175

Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala Lys Pro Trp Tyr Glu
180 185 190

Pro Ile Tyr Leu Gly Gly Val Phe Gln Leu Glu Lys Gly Asp Arg Leu
195 200 205

Ser Ala Glu Ile Asn Arg Pro Asp Tyr Leu Asp Phe Ala Glu Ser Gly
210 215 220

Gln Val Tyr Phe Gly Ile Ile Ala Leu
225 230

<210> 76
<211> 37797
<212> DNA
<213> Homo sapiens

<400> 76
cctccttaga caagcttcta catgctactc atctctccat caaaccacca tattcgggct 60
ttggccatct gctctccaca gccaaagtccc cagtggcctc tctgcttctg acacagtga 120
agccattcag atctgtcttg ttggcagcat tctcacttt gagcagcgcc ctctactag 180
gatacccctc cttgactaca accccacatt ctctacttcc tgggctcttc tgtcactgga 240
ggatgactcc caggtgtgaa tcttcacccc ggcgtccctca ctcaagcccc cgatcctcat 300
atccagcttt atcctcatgg gatgcttcac caggatgagt cataagcacc tcagactcag 360
gggtgtcccaa accactcatc tacctggcaa gctgtcactc tgcattgtgcc tcattctgaa 420

catggcacca	tcacctgctg	caatgtccag	accacaaaca	ccctacaata	tccttgactc	480
tcctttctcc	ccttctccct	gtatacagac	tccaaattct	attgagacta	ttacctccta	540
caccctcac	atttgcccag	ccttccccat	ctctgcctct	accaccatag	ttcaagctct	600
cccattggtcc	cttctgtggt	acctgttctt	cttgcctcct	taagcctctc	atgacactgg	660
ccatgtcact	tgcctccacc	catcacccgc	taggctctta	gctggagtct	gggccctgct	720
accttctctc	ccttcttccc	taccttgac	tccacctccc	tgtgcttcag	ccaaccagat	780
aacttgagtt	tcgtgaatgc	atgcctcagt	ttacctgatt	aactcatttt	catctttcag	840
gcctcagagc	aggtatcacc	ctgtcagggc	caggtgcctc	ttcttagctc	ccaaagcccc	900
agctactctt	catggaacat	cattggcttg	ggctacggat	cttcccaa	atggagctttt	960
tcacaaaggg	cttaggtctc	actcattcta	ttaatccatc	tgtgtctccc	cagggctagc	1020
agtccaagt	aactgacggg	tgattaatag	atgcttgggt	aagtatcacc	tctttaccat	1080
gtgacaattt	gtttacctgc	cttgagctcc	tccagggcag	gactcttgcc	tttgagaat	1140
ctatctggca	gggtactgtt	cagagatgtt	tactgaagaa	gggaatgaat	tagtaccaag	1200
gtgaggaccc	cacccttccc	cacgggctcc	aaaagcagct	tagagcccaa	caaacctgc	1260
cccacatttt	tggcggttct	gtggatcaca	cgatttactc	atctgtcttt	caatgagcat	1320
gacaggtggg	gtgggggtgg	agggattaga	gattgaggag	ctggggaggg	tggtcagctc	1380
ctgggggtgca	gaaacaagtc	tgatgggcc	tgggtgtctg	ggaatcagca	ctgcctcccc	1440
tcacccctcc	ctgcagtgtt	ttgtagcctc	aagatcagtg	agggaatctt	cgggccccca	1500
gcatgcagga	ccgaagcccc	cgagacagct	gtccctcagt	ccaaggtcc	ccatttgga	1560
gcagccacag	gaggcctaag	ggacctatac	ccttggtttg	aggaagactg	tggcgaggga	1620
gagagggagg	gagggctggc	agtgagggca	agggctggga	aaactgagca	cgggcacagt	1680
gcgggagcgg	gtgggtgccc	agggcagcca	ggggcgacg	ggttgggagg	cgccaggcgg	1740
cccgcctcc	ttgcacgggc	cggcccagct	tccccgccc	tggcgctccg	tccctccgc	1800
tcgcagctta	cttaacctgg	cccgggcggc	ggaggcgctc	tcacttccct	ggagccgccc	1860
gcttgcccgt	cggctcgctag	ctcgctcggt	gcgcgctcgt	ccgctccatg	gcgctcttcg	1920
tgcggctgct	ggctctcgcc	ctggctctgg	ccctggggcc	cgcgcgacc	ctggcgggtc	1980
ccgccaagtc	gccctaccag	ctgggtgctgc	agcacagcag	gctccggggc	cggcagcacg	2040
ggtaagccga	gccgcctggc	caggggctgc	ggaaggtcag	gtagtcgggg	ctcgagcgc	2100
aagccgctgg	gggcattgaa	ctgggctggg	ggcgagggg	acaaagccc	aactaaaaac	2160
cttgcagcgt	ggagcgctcg	gacaccagcc	ctgcacgcgg	tggaaggaga	gagggaggga	2220

ggtggaggac	catggaggga	aagcgggagg	ccgcgcgttt	gtagaaggga	gtggggaagt	2280
ggaccagaga	ccttcgactc	aggccaagag	cctgagacgg	acagcgcgtt	cagcttctcc	2340
tcccagccac	tgcagaaagg	gggaaatggc	aactcttttg	ccataatcac	cgggggaggg	2400
tgccaagggc	aaagcccacc	cagcagtaca	cctattccaa	cccagccagg	cccccgcca	2460
gcgactccag	acaagaacct	gggccacaca	cggtggcagc	atctaagggt	ccccaggctc	2520
ctgtgctcct	ggccaggccc	tgcactcaga	cactgctggc	acccgacact	gctctctggg	2580
tacagcaagg	gcaatgtggc	acttcttgtc	ctgccgatg	aagagcagga	gaatgcactg	2640
ggccctcaca	cacactgttc	aaatggggaa	actgagtcct	gagtggttcc	actttcccac	2700
agtcctgaag	tgtgcactgg	agccaggatt	ggagtctgtc	ttaaagtaat	agctgggttt	2760
gtaaatgtag	gacactatca	ttgcaggaat	tcctttgaga	ccctgaagat	gtgttggttt	2820
taggagacaa	actcaagcag	aaggctctgg	ctgatagtgg	ccctaatact	gaccaggga	2880
gaggcaggca	acatttctac	ctcaaaaacc	agccataacc	tgcgtcacia	ataccagggc	2940
tttgctgcag	cttcagcct	acctggttgc	accaacttct	ttttcataac	taggtaaaac	3000
tatatatgag	tagaatcttg	tagtgactcc	tcagaggaag	cctaaatacc	atcggggtct	3060
ggcgttcaca	cccacaagca	atgcccaaac	ctccaagaga	ctgggcagat	ctgtgctcaa	3120
atcaaaactc	attgttgggg	gtgatagagt	tgacttcaca	ggccctgaaa	gtcttggttc	3180
cttgacttag	gagtgtcttg	ggtacgggta	caggctgccc	cttgtagggc	atagttgttc	3240
ttgtttcctc	tacttggtgg	tttatggtct	aggcctttca	ggagtttggg	gctctggcgg	3300
agagggcctg	ctgggagcac	atctggccac	cctgcagagt	gaaatcaaac	caggcctggc	3360
tgcaacctca	acacctcct	ggaaagagga	gaatactggg	gatatacttg	ggtctttctg	3420
gaagtgggag	aatcagcttt	gacttgggca	gtgtgcagaa	tagagtgagg	ggggatgtca	3480
gaaagatgag	agggatatga	ggcctcaaca	tcaaaatgca	agcacctggc	atttttatta	3540
tctctgccca	cctctccgtt	ggtctctctg	cctttcctgc	caatgaattg	tgttatgttt	3600
gggtgcctca	atttgccctag	gagggttcta	tttcttctgt	atcttcgcca	ctaagtcagg	3660
agaagatcct	tatagcatgc	cctgcaacag	tgtcacctgt	aagggcattct	ctctgcacag	3720
ccacagtga	ggatcctcaa	aggtattgag	ggctttccat	caagagccat	ctttacagca	3780
aacctctttc	ccttcagagc	ccagaagagt	gctgaccagc	tggaaaacag	ggtttttttc	3840
ttaaattgcag	atgctcttga	ttatgagttc	cagatattag	atcaacttcc	ccaccatacc	3900
cctgcaggca	aagcctctta	attagcttcc	tgcagcacag	ctggaaaggc	ctattgtaat	3960
ctgtgatggg	cagagtaatc	taagaagtca	caggagcacc	cctgtcccag	tagaatctgg	4020

atgcgcaggc	acatgaacca	tggaataatg	gttgcaggca	cagttgtatt	tactctgac	4080
taactgtccc	tgttaatgcc	acagggctgc	ctggcctggc	acacagggct	gtggcgcctt	4140
gtgcaaatgg	ataacgttgt	tctagctcca	gcctttcatt	caaagtgaaa	actgttagaa	4200
aggaagga	aactttgcta	ttttaaggaa	ttgtagcgtg	ctgcctgata	tgaaggaaga	4260
aataacagct	gtgccttgct	tgtgcgcagc	actcgattgc	cgcttttgct	ttcgacctca	4320
ccacaacaca	gtgagatcta	ctgttcattg	tccattttta	caggaggtga	aactgcagct	4380
tagtgaggta	gagagtgact	tagttcagac	acagaatgct	gttgggagag	taataactat	4440
gatatggtct	cttgactccc	agctatatct	gtgttgctat	aggaagggg	aaaaataata	4500
ctgaaagaga	agtaaaaata	caatcacact	tccaaacatc	aaccaccaa	aactgaactg	4560
aatttcctga	agcacttggt	tttcaaatct	aagctgaaca	tcaatgctgt	tattcttgag	4620
gccagaagc	aacttgctca	tttcaattaa	gcttcagcat	gaacttccta	tgtacacagc	4680
ccaccacac	tccccgatgt	gagaaggaga	gggtcacagc	cgccccagc	ctctgctgct	4740
gccacaagga	cagcagcagt	ggaaacattc	agcaaaggaa	tgttgagacc	acatccacaa	4800
gagactcact	gaagattcgc	caaacgccta	cggaaagtgg	caggaattc	attgacagta	4860
attgtttcct	gcttgatcag	attgaagagc	ttctgggatt	ctgtaacaat	aataggacc	4920
gggggctgga	gtatggccag	caaggactct	tcaggggtta	ttcagggact	gtctaacctg	4980
tgaatcctag	gcagcaaaca	gaaaccaggt	attcagaaat	ctggaggatt	tggtcaggcc	5040
cagctaggac	tagggaggca	tgggcctctg	ctggctgtgg	tcccttctcc	agccttcact	5100
tctcttgtcc	ctagatcctt	acatggattc	attaatgctc	attgtccctc	ctgggccac	5160
tcactttcac	ctgttgaaca	aaaaactggc	caagaggtga	cagtcatatc	accgcagaag	5220
agacagggca	gagaaatgaa	ggggcagaat	ggactccac	ccaaaagcct	gactctgaat	5280
atttgagaat	tgttcaagtt	cctgcagagg	aatcatgatg	gggacagtag	gtgtagtttt	5340
tactgcaata	ttggtgtctt	cttaacaaat	acgctgcaca	tcaagtgatg	tctgtggatg	5400
gcattcttaa	agtaacaggg	aaattgatgt	taaagaaata	cttcattcctt	tgggtgatac	5460
ctgaagttct	ctgagcttgg	aggtcttgtg	aaagccctca	gtattgtttg	ttttatttgc	5520
tttctctga	cttgtgattc	agtcagatgc	atgcctgcct	ctggctcagg	aagatcaacc	5580
ctctcctgac	tgaccacgcc	tctcctgact	gaccacgtag	cacagcagct	tcctttccct	5640
aggggctcct	aatgaagctt	tcacaatcac	ctggcctgag	cacagtttgg	gtcaggactt	5700
ggtatatact	tgaaaaaac	atgcaaaacc	aaaatcctgt	ggttctggaa	aaggcttctt	5760
agcagaaccc	ccagacattt	acactctgct	ttttcacagg	gtccctgagg	attctttgga	5820

tctgggtagt ttggggagca gtatitttcaa caagttcatt tcgtgctcct tctacaccct	5880
gcctggatgc taggccccat ctagaatgtg aacaacagaa caaggcagaa cacttgtcct	5940
caaggttctg ttgagtgtta gatgcagaga agagacaccc cccacctccc cgcatacctt	6000
acaggaattc tgttttgaac ccaacatcaa ataaggaccg tatccactgt cagaggatgg	6060
gaagcagcat gtcactctggg acattggaga aaggctcctg ggggaagtgg gacttgagct	6120
gtgatctaag taatgaacaa ctgagagtta aatgggagag catcccctat cagggtcctg	6180
agagcaacca gccatggttt aaaccagcta taaagcctcg ggtttatagg atagacagta	6240
acaatggctt gtcttttggga gccaaagcagc tgggtccaggc atgcagagca tgtctgtatg	6300
gagagctgcc tgagagatgc ttttgtttac acttatcaat tgcccatgtc aaagaaggat	6360
atgtacatga agttacatca gtatgtaaga gagattttaa caatttttgc aggggaagct	6420
ttcatggggg ctgatgggaa tctaggtaaa cagaacaaaa gtctaaaccc aagatatccc	6480
cagtaccaag actgaaatga ctctctcctc tatctctaga aagttccagt gacccaagga	6540
ggcaaacacg atgggagtca ttaaagtggg gtggacgtgc tgatcatctt cctaattctg	6600
ctgcttttgt tttcagcccc aacgtgtgtg ctgtgcagaa ggttattggc actaatagga	6660
agtacttcac caactgcaag cagtgggtacc aaaggaaaat ctgtggcaaa tcaacgtgag	6720
tatctgtaac cagccaggag accaagctgt atgcacgtcg gctgcagttc cccagggcct	6780
gggccagcct tctagaaggt caggttgcct aaaaagccat gaagatgcat gtgcgaacat	6840
gtctgggacc tgcgtgctag ggagtggcat ttttaggaag ctggccaatt ttgttttgca	6900
tttttaaggc tgctgacaag acttgagagc atttttcagg gctggtttgg gtttgcaaga	6960
aacatgaaac actgcgtgtg tgtgtgtgtg tgtgtgtttc tcaatcctca taaaataata	7020
cagatatgca gtggagaagc caccagcatg tgactctgga aaagaaagcc cattggtgaa	7080
tctgtactaa agaatgccat ccctatctta cagtcttaag gtaaacaccc caaaaagact	7140
tagagcacta aacatatgca gattatgaga cagcatagca tataatattt gcacagactt	7200
cctcattcaa accctagctc tacctgggoc agtcgattca tctttagaac cctccattgc	7260
tttacctgaa aagttcgtat aacaaaagga cccaccttat ggggttggtta caaggattga	7320
atgaaataat gtacataaga gactgaatat ggtgccagc acatatcagt gctcaataaa	7380
tgctagctac tattattatt atcaccctag atttgcaa atctagaccaca caagcagaag	7440
taagagtgcc aacggggtgt ggaccagtgt gggtacaata gggcttggtg atgtctgttt	7500
cagcaaggag ggaggcagct tttaccccac tgcccagctc cctgggtggaa tcagggtgcat	7560
gttctaacaa ttctggggaa acctaatctg ttttggcact gtcaacagat ctcaaagctg	7620

gctgtctcct atagctagga agatgtgtat gacaaatctc ctgagccact tgtgaaggcc	7680
tgaccttcct cctgtctcca tacataatgg gatgattaag aaactctaag ccactctctt	7740
aagcactttt caatgttagg gatttttaag tttattgttg tgacattgct tttgagcaga	7800
catctcctcc aatttaatag ccaactgaaa gaagagaaaa tgctctttcc ttaaactgta	7860
tgtggaaata aatattccaa tgtgtgaccc tgattatggt aggcaattag caatcctaata	7920
atgaattgag ggaagttggg attcatggca cagctgggga gataccagca gtccctggga	7980
gcctgtccag ggcaggtcca tggcagcttg ctccatgcct gattgacagc ccagcctgca	8040
agctaaaagt tgagtgaagt aggaggacac actgccaaaga ttcagctaac agacaccag	8100
cgatattctt gctgctatga acaaaaggag actatgcaaa ttatacacca cccattcttc	8160
caggatgcct gacttaaaaa ataagaaaaa agatgggccc ggcacagtgg ctcacgcctg	8220
taatcccaac actttgggag gccgaggtgg gcggatcaca aggtcaggag acagagacca	8280
tctggctaa catggtgaaa ccccgctctc actaaaaaaa taaaaaata ttagcgggcg	8340
tggtggcggg cacctgtagt ccagctact cgggaggctg aggcaggaga atggcgtgaa	8400
cctgggaggc ggagcttgca gtgagccaag atcgtgccac tgcagtccag cctgggtgac	8460
agagtgaagc accgtctcaa aaaaaaaaaa aaaaaaagaa aagaaaacct ttagtactga	8520
ttgatttttt cccatgtgtg tatattatct actcaaatta acaattaatt acttaattaa	8580
acacaaagcc aggcctcacc taattgcttc ttggaaggtg accagagtgc tagtgccaag	8640
caaacaactc ttctatatct caagagccct gggcttcaga gggccatctt tttgttaat	8700
tcaagtttct ctgaaaatgg agaccggtt atgatgacaa gctgggtaca gggtagcatc	8760
tgccacactg tttcgggggt gccgctgggc tgaagcattt gccagctag ttaacaatag	8820
ctcgataaca ttccctatca gtgtccaggc tgagaatact gtcagtgatg agtcgccttg	8880
gctcttgtag ctgtatcttt gtgtgccagg acaaggcaca agcaacagag ctgtgtgttg	8940
ccaaaatggt cctgatgagc aggtcaacct ctggggggca ggtttggata tgataatgtg	9000
gtgatgtggt ggcgcagctc ccttaccag tgagcacaag gggagtcctc taggaaaagg	9060
aagaaatgtc tggatgaggt ggggagatgg ggttcagagt ggactcaggc aaagccgat	9120
gccagtcctc agctgttggc ctagtctcac aaagccagaa ggatatgaca ttacattca	9180
actcttgaat ttgtggccac tgctttgggc aacttcaaag agagaaaatg aagatagaaa	9240
aatattattt gatataaaac ttctaggaca agagaggccc ttctggaac attacatgta	9300
gtattaggaa ggtggagctg ccctggaaaa gatccagaga actcagagag aggaagaggt	9360
ggaaccatc tctgttcttg tagagagctc agtaagagtg gcttggcagg gctcctgtgt	9420

acctgagacc aagaccagtg aggaggctac tgtctgacca ccatacggtc agaattcagt	9480
gccatgggtg gtcaggtggg aaggggagag gactgtgctg gctggagttg atgttatcct	9540
ggggaaagta ggtccctaga tgcctttagt tgagtgagga gcagactggg aaatgggagc	9600
acagtagtgg ttggggcaaa aaggactgtc tctgcatgag gtccataggc agttggaatt	9660
ttctcagcaa gactccagag aaggaggctg gagcagaggt gtatgttggg atgaaaagga	9720
gtaaagtatc atgggggagg aggcagctca ggttgtcaag ggtcaagaaa ccagaaggag	9780
aatttcacct tggaagcaga caacgggtac caagcataca ggggaatact ttgtggtgag	9840
aggtcacaca gagatacagg agccgacctg gtgagacagg agcctggagc cacctgcctg	9900
cttttgtgag gccccagact ccactgctat catcagggtga agctctgttg cctgcacaca	9960
aaagcttttc tgcatttaca aagagagaag ggccctgagtt tctggtgcaa tgcgtcaagc	10020
tgacatatgg actttattac aggaagtggg taccagtggg tccctattta gtggctgtta	10080
ttgtgaattt tattgttcgg aaattcactt tagcatttat ttcagatcct aaatagcacc	10140
ggagtgatac aatggctaata caaacaaga gggctgtggg gagcagacag tcagcatccc	10200
cctctgtgat ttcaggccct ggtttgatta gtagccataa aattttttac gtgtggcact	10260
ttgagcaaag gtgcaggaaa ttgtggtcag gaagcctggc tgcctctcga caggcttcct	10320
ttgtgctagc cccagggaga ggaggcctat ttaacagcca agtccaagtt gacatcatgg	10380
gactggaata gtcatagcag gagctcagac atcataaacg tggcataggg agggctggtg	10440
gaggagctag cgggtatggg tggcagctat tcattccaaa agtcttgaaa ttgtttcacg	10500
agcaacacat ttcacaagtg cgaagccctt ctctggagcc aagatgagct ggcagagcac	10560
tcctgtttct ctagtagcaa gtgttccttt gcccaggggc aaaaatatta atactccttc	10620
agcactgcat taatgcttaa agatttaact tttaaagaga tcagctggtg catggctcag	10680
cttttccatc agctggcagg gctttttcag taggtgtcct tctgggcagg gcactgggga	10740
cagctgacgt gaagggtgaag aagagctgtc gttttcctcc cttatatccc acaaccttgg	10800
tccaagagg aaaaaaaga agatggtgag aagtcatcca agcagacccc agaccatac	10860
tagtgccctc tttcctgttt catatccctg tgcagccagc tgggatctct tgaataatct	10920
gctctggggg cactgagatt ggacatacac caaacagcgg agatcgacca aacgcctctg	10980
ttgggcagtg tttcctgagg gttctgtccc attctgtaaa ctaggaggct gactagctga	11040
caaggaattt tattctgttg ggtatttaca tgaacctatg tgccacctgg ggtaagaccc	11100
tgtggtaggt agaaacatga cttcccaaaa atgtccacat cctaattctt aattctgtaa	11160
atatattccc ttactggaaa aagagacttt gcaggtgtga ttaaattaag gatcataaga	11220

gggagagatt atccaggatt atttgatgag tctaataataa tcatcagggt acttaaaaga 11280
 gggaggcagg ctgtgcctgg tggttcacgc ctttaatccc agcactttgg gagactgagg 11340
 cgagcgggtc acgaggacag gagttcgaga ccagcctgac caacatgggtg aaactcccc 11400
 tctagtaaaa aaaaaaatac aaaaattagc caggcatgggt ggtacacacc tgtaatccca 11460
 gctactcagg aggctgaggc gggagaattg cttgaaccca ggaggcagag gttgtggtga 11520
 gctgagatcg caccactgcc ctccagcctg ggcaacagag caagactcca tctcaaaaaa 11580
 aaaaaagag ggaggcagtg ggatcagagt cagagaaggc aacgtgatga tgaaagctga 11640
 catttgagt atgcaaccac aagccaagga atgcaggcag cttctcaaag ctggaaagga 11700
 cgagcaatgg attcttcctt acagcctctg tgaggaatgc agcctttgat ttttaaccca 11760
 taaggccgat ttctgactct agcctctgga attgtaagat aatttgcatg atctcaagcc 11820
 actaaatttg tggtaatattg tcacagaaag caatgggaag ccaacacagg ccttatttgt 11880
 tgacttatag atgcattttt ctttattttca atgtactttt atcaatgggtc tcatgtaggg 11940
 tattgctttc aatgaagata ttaacatagt ttcaacttta aggtttatat ctggagtttc 12000
 tttagaagct tcacaactga ccacttagta aacagtaagc atctgttaag tgcttctcat 12060
 atgtaagttc attcaattct cacaatcaca ctataagata aatatgatta ttagccatt 12120
 tacagatgag gagacaggct caaaagactt ttatgcaacc tgggtcaaagt cattcactgg 12180
 taagctgagg aggtctgtcc acttcctttt gctgccccca gggggatatca agcctggcag 12240
 ttagtgtcag cgacttagga ggtgaacaag tgagcaggcc tgtaggacct ggctaaactg 12300
 cccaggtct ctgtctacag cctcaaacct gtggctgtgg gtcccagaga caaggcctcc 12360
 tcagcatcag agaaggatgc ctttgtctca gggctcatca ctttctccag gttgtctacc 12420
 ccctgctgta aaggggatcc ccaagaccgc tcatcagaca aggagcttgg gaactgagga 12480
 gacacagtca gcctccagga gtgccccaaa tgccctcaca tgctgcatac agattgccac 12540
 aaataaagta catccacatt ctgaagactc tgtcctcatc accaaccagg ctggcccctg 12600
 gtgagggctg tagtggttga ggcctttgtt ggtagacgggt aggttaaagc aagccatgat 12660
 tttctatttg gaggcctcag aatcagctca gctgtgtttc caagaccagg agggcagaaa 12720
 gcaaaccatc ccaggcaagc agtccatggg ccatgtcaga tgtctagacg ttatgggtct 12780
 gtgtttgctc tgccattcct ctcggaact atgatgcct gtatggttta ccttcagtca 12840
 caggtgactg gcctacaggg ccattccttg ttccaacgac ttctcgagta taattaatcc 12900
 ccaggcattt acggccagag cagccggcca aatccgtgaa gtgcagtgggt tgttttaaat 12960
 tatattaact tcttggaaac ttatttttagg gagagaaaac tcagtacttc tctctatcca 13020

atcttgagta	aaaatgttag	aagggactgg	tgagagacct	cccagacatc	cctacacata	13080
gactttgggt	tgacattatc	tctttgcacc	ttccttgaaa	ctttcttcta	aattaggtgc	13140
cttcctaata	ttaggcacct	tcccagtact	agtctgtgac	ctgttaggaa	ccaggccaca	13200
cagcaggagt	tgagtggcag	ggagtgagca	ttattgcctg	agctccgcct	cctgtcagat	13260
cagcagtggc	attagattct	catagcagtc	cgaatactat	tgtgaactgt	gcgtgtaagg	13320
gatctagctt	gtgcattcct	tatgagaatc	taatgcccg	tggtctgaga	tggaagagtt	13380
tcataccaaa	accacccctt	ccccctgcc	ccatctgggg	aaatattgtc	taccacgaaa	13440
ctgatccctg	gtgccaaaaa	ggttggggac	cgctgtccta	agggatctgc	tttttctgac	13500
ctgaggtttt	tctttattag	actgtatctg	gctgaggaga	agcctgaagc	ctttaatcgg	13560
aacagctttg	gctgatgaga	ttagattcag	aaaccaacag	attggtcttt	tctatgcagg	13620
gaagcctagg	aactgggggg	ctatggctgg	gaagccccct	attgtttcca	tcctttccta	13680
tgttcatcct	ggaggaatgg	catcagaccc	atgcctctgt	gattgctccc	agcccatcca	13740
accacagcat	ctatgttctg	cctgggacca	gggccaggga	gcatggcaca	ctgagctgag	13800
tataaggaga	gtggagcagg	ccactgccag	cccagaaaat	tttgggtcaa	gttgctgaa	13860
atcttctcag	ccttcgattc	acagctgctc	tctgctgctc	tggggccatg	cagaccagtt	13920
cagaaaagag	ttaattttgt	ggggcagttg	gaggcaggtg	gactgccagc	tttgacacct	13980
tcccagccca	caggctgctg	cactggggct	gaaggcgtgg	ctaacccttg	cacacctaga	14040
gagtgcagag	gatgccagac	tgggcagcag	gaaggcaaga	ggattaagag	agagcttcct	14100
ggctgaaagc	cacactcggt	taaccaggaa	aaagcccttg	gcacgagaag	actcagtggc	14160
ctgagggact	gagccttggt	tggtgggcat	gtgctgcata	agccatccat	gtgtgacagt	14220
agagtgtagt	ccagccactg	tgggacatgg	gtgctgaaag	accacatgga	gaggaacagt	14280
gagtgctgac	aagggttagc	cttgatcact	ttggagacac	cccctgtgtc	ttctagatgt	14340
cagactttcc	aaatctgtct	gctatcctcc	aaacgtgcat	tttcaagagc	aatggaaaaa	14400
ggattggact	tgatggaatg	cagcaagagt	cctaggtctg	ttactaccta	cctatgacct	14460
taagaaactc	cttcaccctt	cagaaccctt	acagctttct	ttctgattct	atcatgagtt	14520
actctactcc	aagctgagac	ttttctgctt	agatctatcc	cttcctccta	aacccccaac	14580
ctccattttct	cctgggtgtct	ttcttttacac	accctcagc	atacacacac	acctagccac	14640
aggaaccaat	gagttaatat	ttgaggagtt	ggttttcttt	tgtcctcaat	gagatcctgg	14700
tgaggccact	tgagctgttc	agctcccttg	cggtattttg	gggatggaac	tcagaagcca	14760
acaatataga	aaaagagtct	ttggccagct	ttcccagggg	ctccatgcc	tagagagtac	14820

tgcacccgtg tgcacagggg gccctgacat gaggactttg aggataacac tattcctcca	14880
actctgcttc agcatctcca tggattttca cacagacact ttaggaaaga aactaagttt	14940
ggggggactt gacctaatcc cacatcccag cccagtaat acagccctgg aatttatcac	15000
agaaagccta gaatcccatg catatcccat gcatatgcat ccctagtcct atgggttcaa	15060
ggcttggagc tctccctgga tttagctggg aaaagttggc agacagttct tctctgtctt	15120
ctagaaatat ggactagaat cgtgagtgtg agattgcaag taacttttaa aatcatctag	15180
tttaacttca cccattttca tagaccaaga aactgagacc agagagagaa atggactttc	15240
aagttcaccc tgctagttag tgatggatca caagtcaaat ctctgattc tagcactgtt	15300
tctcttacac cacaccacct ttgaaagtgt gtcaatcaaa tcttacttta gttgcagagg	15360
atgacttttag tttctgaaga taaaattgtg agtcaatcaa gatcagtcct aagacaatag	15420
cctgttttagc ccttataagt tcagggatga aaggttagaa agaaacagga tggaaggagg	15480
actggagaaa aaaacaaaag aggaaggaag gaggaggaag caaacaggaa aaaaaagaa	15540
tgtgcatagc ttgtcactcc tcagtcattt cctgggagcc catttctagc aaagtgacag	15600
ctgcaactcc ctggccacct gagcatctta gctgatctgt ctctgaaaca cccctggag	15660
aacagatgaa tcaggcttca tcttcgctta actaagtctt ccctgagacg actccattta	15720
aatgaacaag agcaggattt cctgggcaca ctgagagcac cttccagagg cccctccaga	15780
gccctaaagc ctgtatttct tccagtcggc ctgtttcttt cctggtgatg tcattaaacg	15840
ccctttgaga gtcccacagt gagcagttct gcggtaaaac ccgctgcaat taaagtctga	15900
gtcctttcct gtctcaaagg gcatattcat atagaagaaa ggaaaaggaa ggactggctg	15960
tttgcatttg gttccaggcc tgttgagtag aggtcgtgct cactccaccg aaggtacagg	16020
gtagccttca gcagaacctg gggatttggg ttttaagcaag tctttcttag gtgtgggctt	16080
tcagaacact tccttccttg caatattatt tgaaattctc agtgtttttag ccgtccccag	16140
aatattgggt cgttaaagct gtgtatttca gatctccaga cagtggtcac tgtttgtata	16200
ttttcaattt caaaccagaa aacaaaagtt ctatttgatt acttttttta tttaaaaaat	16260
aaaaagtaag tatcttcgta agaggagctt tgttttaatt ttaaagttta aaatttgatt	16320
gtgaagacag agaaaaactt gatgattgta gatatatcc cctctttggc tattcaatca	16380
gagaactaga aaatcatgag agatttaatg accactgcct gatacacata tgtgttttac	16440
agatgaggaa actgagaccc agagagatga tgaaattggc tgaggatggc ccagctggtc	16500
agtgacagac tcagagccag agctggtgca gggctctttc tattccttcc tgttcccttt	16560
caggaacact caccatcggc tttcctgtga ataatgttga gataaaatcc ttggtgcatt	16620

atgttttcta gtcacaacat tgactaggct gccagagtcc tctgttctcc cagttggttg 16680
gctgtaggtg ttggcagccg ccaggagcat tctacagaac agaggaggag tgagactctc 16740
cttgctcagg aaaggcagac ctatgactta gcaaatagact cctaagagga gagtgtttca 16800
cccaccattc ctcttccttg gctgtggagg caacttagtg gagagggggc agatgacctg 16860
tgaggaacag tgaagccctg cctaacacaa tgtatggttg tcttgttaca gagtcatcag 16920
ctaogagtgc tgtcctggat atgaaaaggc ccctggggag aagggtgtc cagcaggtga 16980
atgaatcctc cgggccttgc ctgttggtgt ggggtggaagg gaatggtggg agagaggagt 17040
accacataa aaggcagcag agtgtgaatg ggggcagtgg cacaaggaca tggcattctc 17100
cccacgtgcc cactggcccc aggcctctatg cgaggggctg aggaatggaa gctggaaaca 17160
gcgcatttcc tgagctgtct ctctggcct ccttaccaca ctggtggagt agactccaac 17220
tgtggcctgt ccatgccctt ccagcagggc acaggctcag gctcaggctc ttggcctctg 17280
cctctggctg ggagtgattc taaacacatc cagcagggctc agcctgatag cccatcagtt 17340
tccgatcagc tctgctagag agccgatggg atgtgggagg aggggggtcac tgggtgggctg 17400
gcaaccccaa gccatcccca tctccctctg tgtctaaact tggccctttg gagtctcggtg 17460
gggagaagag ccataggcca ggtgggctca ccagaggtca gcagagagtc ccacaaatgg 17520
ttgcaactgg cgaaagacag catggcacct gtgaatttta ttagagcttt tcttttagtg 17580
ctacacacaa gtgactgtac aggggagtta gtattttgtt ttaattttga aatagagtca 17640
tcttttggtg tctgcggggg attgattcta ggaccattc taggatgcca tctctcaga 17700
tgttcaagtc cctgatataa agtggatatg tatttgcatg taatctatgc atattcttcc 17760
atgtacttta aatcatctca agattactta taataccaaa tataatgtaa atcctatgta 17820
agtagttgtt ataccctctt ttaaattttt gtattatctt ttattgtatt tcaaaaaata 17880
tttttggtcc atgttttagt gaatctgtgg gtgaagaacc cacagatacg aagggccaac 17940
tgtattggct attttttttag ttaagaatgt gagactgagg ccaggcgcag tggctcatgc 18000
ctttgattcc agcacttttg gaggccaaga ggggacgatc acctgagcca agaattcgag 18060
accagcagcc cgtgcaacat agtgagacct tgtctcttaa agattgtgag actgggctgg 18120
gcacgggtggc tcacgcctgt aatcctagca ctttgggagg ccaaggcagg tggatcaact 18180
gaggtcagga gtttgagatc agcctggcta acatagtga actctgtctc tactaaaaat 18240
acaaaaaaat tagctgggtg tgggtgggtgg cgctataat ccagctact caggaggctg 18300
aggcaggaga atcgcttgta tccaggaggc ggaggttgca gtgagctgag atagggccgt 18360
tgcactccag cctgggcaag aagagcaaaa ctccatctca aaaataaata aataaataaa 18420

taaataaatc	atgagactga	gacataacag	gaaggagggc	aatttggttg	gttccaaggt	18480
tcctagagta	tgtgatggga	gaggttggtg	cgggtggggc	catggaggta	ctgactcaag	18540
tggagggaca	ggtggggaaa	tgggatggga	aaagaagatt	gaccttagaa	ggggagctca	18600
acctctgaac	cctaatttca	gacccttcaa	aatgaatatt	aagctcattt	tggtctaaga	18660
aacaaaaaac	aatgaacat	gaaactcatt	ttggtcttat	aaggtctgag	aaacccttc	18720
taaacttcaa	gctgctttaa	gaaataacat	tttattacct	gcaaatacac	acagtacttt	18780
ggagatttat	aatagtctct	tattctaata	gaagccatta	gggaaccagt	ttcaataaac	18840
aggtaaatct	gtaagactag	tttgtaatta	ggatatctgt	ttccagtgtc	cattcctgcc	18900
tctgttatct	aaatgtctgg	gaacaagagc	tgtgctctgc	tgtgtttaaa	atgattaaaa	18960
atcaccaatt	agttgagttc	acgtagacag	gcatttgact	tattgagttg	ttttaagaag	19020
actataacaa	gccttaagcc	ccccagaaac	agcctgtctt	tggtgtttcc	cacatgcctc	19080
ctcgtcctct	ccacctgtag	atgtaccgtg	ctctctgtca	gagaagggag	ggtgtggttg	19140
ggctggaccc	ccagaggcca	tccctccttc	tgtcttctgc	tcctgcagcc	ctaccactct	19200
caaaccttta	cgagaccctg	ggagtctgtg	gatccaccac	cactcagctg	tacacggacc	19260
gcacggagaa	gctgaggcct	gagatggagg	ggcccggcag	cttcaccatc	ttcgccccta	19320
gcaacgaggg	ctgggcctcc	ttgccagctg	tgagatgacc	tcctgtctgc	cgggggactc	19380
ttatggggaa	ctgccttact	tccccgaggg	gtgggcatga	tgaatgggag	tctgcagtca	19440
tttctacttg	tttcaggaag	ctttctcctt	aacctcttag	aaaaggctgt	ggaacttgag	19500
ctaaaatatg	tcttaccagg	ttgcgtctaa	tgccccccgt	tcctactggg	gcagaaagac	19560
ttgggtgctt	cctgaggagg	gaccttgggc	agaagagagg	cctgggctca	cgagggtgta	19620
gaacatgttt	cccagagttg	caaggaccca	tctcttaaac	acagagtctg	cagcccctaa	19680
ctgacaccct	gtccttcttc	ctaggaagtg	ctggactccc	tggtcagcaa	tgtcaacatt	19740
gagctgctca	atgcctccg	ctaccatatg	gtgggcaggc	gagtcctgac	tgatgagctg	19800
aaacacggca	tgacctcac	ctctatgtac	cagaattcca	acatccagat	ccaccactat	19860
cctaattggg	taggggatcc	ccagccatac	tgcatggccc	ttggtgcata	atgaacccat	19920
ttctgttcca	tgtgtgggct	ggtttctggg	gtttaagctg	tagacaaccc	accctctttg	19980
tgctgtcttc	tccttgggcc	ctctattcca	cagcttgtgg	aaccacatt	ttgctactgt	20040
gtttgaaaac	actgttttct	cctcccgggg	ctttgggact	atgcctctgt	tgtgttgact	20100
gctcatcctt	gctgcttctc	tgggcagatt	gtaactgtga	actgtgcccg	gctgctgaaa	20160
gccgaccacc	atgcaaccaa	cggggtggtg	cacctcatcg	ataaggtcat	ctccaccatc	20220

accaacaaca	tccagcagat	cattgagatc	gaggacacct	ttgagaccct	tcgggtaagg	20280
gactgccctg	ggtggaggcc	caggcttggg	acacattgcc	tccaagagg	ggcctagcag	20340
gaactcttct	gcaggagagg	tagaggatgg	ctcctgtagg	ggaacataga	gcaggttccc	20400
ctgaatgccc	ttgaacatgg	agaattcatt	gaccagacat	tcagcttgac	ctaacctgtg	20460
aaattctcca	tcttctttat	aaagtgttcc	cttccttgcc	tcccctggaa	aggtcagtgg	20520
tgtgtggctg	cagcagcaca	gtgtcctctg	agccctggac	ctgcactgtg	gcttccagag	20580
gtggcagttc	ccacatgggg	tactagaata	aatggcctat	caggctgtgt	gtgctttggg	20640
atcacatgtc	cccaccctag	gaccctgggt	ccaaccatac	gcatgttctc	ttggagccca	20700
gaacagcaga	gaagccacca	gtgtggacac	agaagtcaag	ggtctgattt	ccagcctggc	20760
ttctgactgc	tctggggccg	caggaatacg	gttccttccc	ccatgcccg	caggcatttg	20820
tcttacaact	ggaggggaag	gcatgttcct	cttggaagg	actgctcagg	aggaagtgga	20880
ggcaggctgc	cctgtcaggg	tttttgcctt	gattcaagga	gaacttccta	accacaaagg	20940
atacaagtgg	gagtgaggcg	gaccctccct	agagatctcc	aacacagaga	gacaaacacg	21000
ctggggctgg	ctggcactga	caggcctcgc	aggtgtggat	ggctgttagc	tgggagcttc	21060
gctgtctaag	ctcctctccc	atgcttttct	tctgggttgc	tcgaaggacg	ggggtctgca	21120
agaaaatgat	gttcccacat	agttggcagc	acgtgaacag	caattgatcc	ctttgcatca	21180
cctcctctta	ctgttttagat	ttggtaaata	tttcttccct	ccctcttctg	accctccatt	21240
ttgccgatct	ttccttctta	taacacatac	ttactaggta	cctgctactt	cccgggtggg	21300
cctatgtgcc	aggagtatat	aggtgaacaa	ggaaggcaaa	gttctattct	cagtagagct	21360
aatactctat	ctggagagag	acaacaaaca	aatcaacaag	gtagccaggg	gctgtgataa	21420
tttatgtcaa	gtgggcaggt	aaatcgggag	tgacagtagt	gcagggagga	ttggaaagtc	21480
agggagttct	ctctggagga	ggtggctttt	gatctgcagc	ctaaaggatg	agaatgggtc	21540
cattatacaa	aatgctgggg	caagagcaca	cccagtagag	gggagagtaa	tagcaaaggc	21600
tcagggcagg	aagggcaagg	gagaggccag	tgggtgaggt	cacatgtgaa	gggcatacaa	21660
tgggcaaaga	caaggccaga	gtggccaggc	ccaatcctcc	aggacttgca	gacctgggaa	21720
agagtgcac	tccatcctgg	gagcagcagg	aaaccactca	ggcctttaga	agatccttct	21780
ggcagctgtg	tagagaatgg	gtggtgtgat	ccttccatgc	atgggctcat	gtacgtgatt	21840
accaataact	gtcgagtgc	agtgtgagga	gggctgcaag	ccatgagtgt	aggcacagca	21900
gacagactca	cctttgtctg	gcggtgagat	ggggtgggaa	gtgtgccaa	ttgacctccc	21960
aaagaaatga	tatttttagtg	gaagaatgaa	tagaatcaga	gaagcaaagt	aagagggaag	22020

agcagagagg	acagcaggga	caaggacttg	ggggcaggaa	gaggaaaggc	aggttaagga	22080
catgaaagat	ggccaggctg	gctggagctc	aggcccagca	aggccccctg	ggggccatgg	22140
tcattgggtga	gcttgggttt	ggcttctgtt	ttcgtcttgg	gcttctgtga	aagcctcgag	22200
cccttgccggg	gaaccagtga	agctgtgtgt	gcattcttctg	tggggagtgc	cagagtcttc	22260
agggagcact	ccattcttctc	tcctccccac	aggctgctgt	ggctgcatca	gggctcaaca	22320
cgatgcttga	aggtaacggc	cagtacacgc	ttttggcccc	gaccaatgag	gccttcgaga	22380
agatccctag	tgagactttg	aaccgtatcc	tgggcgaccc	agaagccctg	agaggtgagc	22440
atcctttggc	tcctgctgct	gcctcatttg	tgcagctaga	ttgagcccaa	gacctgctct	22500
ggtccaagat	gaacatacca	cctgccatga	ggtgaccctc	aggatatcca	ctgcagccat	22560
gggctggggg	catcctgtcc	tgttgcttca	gctaaccgtg	tctctagcag	ccacactact	22620
ctgaggggctg	actacagaat	ccagcagctt	ttgtctggga	gagctggact	gaagagaggc	22680
atagctggag	acccatagct	ggccctggcc	agaaacaggg	agagtgaag	gctggaatag	22740
ccaaggccag	agcaaggcta	ataggtagag	caacagctta	cagggtgtggg	ggtggcagat	22800
actggcacc	ttgaaatgga	ttcctcatgc	ccacgcttca	ctattcttct	ctgtggctag	22860
gggatttatg	gataaaccaa	aattacagtt	aaaaaccagc	cataggccag	gcacagtgc	22920
tcacgccttt	aatatcagca	ctttgggagg	acaagggtggg	cggatcacct	gagatctgga	22980
atgtgagacc	agcctggcca	acatggcgaa	accccatctc	tactaaaaat	acaaaaatta	23040
gctgggcatg	gtggtgggca	cctgtaatcc	cagttactca	ggggctgagg	caggagaacc	23100
acttgaacc	aggaggtgga	ggttgcaagt	agccaagctt	gcaccactgc	actccagcct	23160
gggtgacaca	gagacactcc	gtctcaagaa	aaaaaaaaaa	aaaaacagtt	atagtagtca	23220
acttttgact	ctccatttca	gatttcgtca	tgcctcctc	aatgagctgc	taagttaggc	23280
agtgcattga	ttattgctgc	aggagaggga	aggaaggagc	taacgtgttt	tcacatgttt	23340
tccttttgga	gatgagaaag	gaggactctg	ccttccccct	accctgcccc	tttctactcc	23400
aggacctctg	aaaggccatg	agcacaaagc	tgctgcctga	gtcccctgaa	atgcagggta	23460
cgccccagg	ctctgatgta	ccccaccaca	cttttcctct	caaacatatt	ccaggatcac	23520
ttgatttctt	ttgaatctat	ttaaaccac	cgtgtcaatg	tgctatataa	aatgtcta	23580
gcatttcaga	caccctatac	atctatacat	ttaaagtgtt	ctccttctat	ctgtgcagg	23640
atgggaaagg	gcatttttct	gaaagcacag	atgggaagac	gggatttggt	ccgtgtccag	23700
gtgattatgg	tacctctatg	cgccctggccg	gcactgggga	cagaggccat	gaaaatgaat	23760
acagcacagc	ctttgcctcc	aagaaactta	agacctagta	gaaatggcag	gctttaaaac	23820

aggttggttg	gatctgattt	ggtgagtgc	atgacagaga	tactcacagc	acaaaatggg	23880
gaatgagggc	gggcattggg	acacacatag	ccttaagggg	cccaaaggct	tttagaactg	23940
tattccctat	taaaacatga	tttgacaga	gcacattctt	tgctttggag	acctcagaac	24000
tccttactat	aggccgggca	tggttataat	cccagcactt	tggaagcca	aggcgggcag	24060
atcacttgag	gctgagagtt	caagaccagc	ctggccaaca	tggtaaaacc	ccgtctctac	24120
taaaaataca	aaaattagct	gggtgtggtg	gtggccacct	gtaatcccag	ctactcagga	24180
ggctgaggta	ggagaatcac	ttgaacctgg	gaggcagaag	ttgcaataag	cccagatcat	24240
gccactgcac	tccagcctgg	gcaacaaagc	tagactctct	caaagaaaa	aaacaaaaca	24300
aaacaaaaca	aaacaaaaaa	aactccttat	tataaactgt	aagaaaaaaa	aggcccctac	24360
ttcgtccctt	ttgcaaactc	gccttttctt	actcactaac	cagctgggtc	agagcaagga	24420
cactctgttt	ggtgccatcg	ctgcagactg	gaaggaagag	gtccttgccc	cacaccaaac	24480
agtctcctgc	tgttaccggc	aggttggcag	gcaggcaggc	gagaagcagc	cagggctggt	24540
ggtgtgtcca	gtttgaagac	tagtttccag	ccctggccct	gctcacctc	caagtggccc	24600
tggcagggtc	ctctaccaca	tcgtggactt	caocttctt	ctctaagaag	ctcaatcccc	24660
aaggcctcat	tcccataggc	cttctcacc	tttttcttt	cctctggctg	aatgtggcca	24720
gcacgggctt	ccaaggccat	caactcgtct	gcagcagccc	catgccttgc	agggcctcag	24780
agcttctctc	tgccatagac	agtgtggttt	tggttcccac	acttgggatc	agattgaaac	24840
tcgcctccgt	ggtgagaata	tggaacatag	agcctcgggtg	accttgggtga	gcagcagtc	24900
aggccacctg	ctcagcctgg	ggttgggggg	gggtcctctc	tccttgactg	gtccttgcat	24960
ttgcctccat	ccagcctgtc	tggtctctcc	gaggcaatgg	agaccagcag	gagtcacgat	25020
gggtcaggag	ccccctttgg	gcctcagccc	tgccctgccc	cctaaagtag	cacttgata	25080
agcaaataaa	ttattatact	tactatttat	gggtgtggtg	aatgggatgg	caaaggccaa	25140
gtcttactga	tcaccaaacc	ttaagatata	tcctggcagc	tagtagacc	ttgggctaaa	25200
tgaacagaaa	actggacaaa	taaagtgtac	acaaataact	caaagctgtc	atgtgtacac	25260
ttttcgtctt	ttcctactac	agtttacatt	tttataaagg	tgagtagatt	tctaaaatcc	25320
cgtggtaggc	tctcttgagt	ttttcttgta	tcctgaagt	tcagctacaa	ataagcta	25380
cactaacatt	tggttagcat	ttactctgtt	gtcaggcccc	gtgccgagtg	ctttagggtc	25440
agaatttcat	gtcatcccca	cagcagccct	aggagatgaa	tgcaattctt	atgtccactt	25500
gactgataag	gaagttagag	ttcaaagagg	ctaaatgact	ctcccagggt	cccacagctg	25560
gaaagtggcc	acagggcccc	agctggtttt	ctagggcagc	aggcagaagg	cgaggaggat	25620

ctgggacctg	tggtgcccc	gcctcatctg	agggtcctca	tctgagagaa	caggatcctc	25680
acagcatggg	caggctgcaa	gtggtccctg	aggttatcgt	ggagtggacc	ctgacttgac	25740
ctgagtctgt	ttggaccca	gacctgctga	acaaccacat	cttgaagtca	gctatgtgtg	25800
ctgaagccat	cgttgccggg	ctgtctgtag	agaccctgga	gggcacgaca	ctggaggtgg	25860
gctgcagcgg	ggacatgctc	actatcaacg	ggaaggcgat	catctccaat	aaagacatcc	25920
tagccaccaa	cggggtgatc	cactacattg	atgagctact	catcccagac	tcaggtaggc	25980
caggcctccg	ggggccttgg	ccctgcctgg	cccaccatct	cttctgccat	cctttgtggc	26040
gggggagggg	aaattcagag	atctttgggc	gacttccttg	cctggacca	gctcacagct	26100
tctcgccac	tgcaaatgtg	tgggttgtga	ccagactgat	gtgtcttgag	cttcaggctt	26160
gcaagtgcag	tggagaggca	gtggggagct	attgaagggg	tctggggaca	gactcaatca	26220
cagaggcctt	tcagaagatc	tgctgctgt	gcatgggcaa	agagggccac	ttgctgacct	26280
cagagcatgt	gctttctcag	tagtgcccaa	gctgtcccat	ggtcactgac	ccagttagaa	26340
tgactgaatg	gactttggct	tgtgtctcat	taggaatcct	agccccattc	tagtcttcca	26400
gtgagatctg	tccatgagtg	aaggaatctc	acaggaaaaa	acaaaatgct	tctatgggtg	26460
tggttgctgg	ccttatctac	accacagaag	ccatcacaca	gactgtcttt	cttcccattg	26520
ttagaatgtg	ccctgacca	gcagcccaca	gggcctggga	cagaggctga	tctctgccta	26580
actgagctca	cctctcctcc	ctctcctcct	gactggtttag	atcttctagg	tgactgttcc	26640
cctgatgaca	caagcccgt	gggcccagc	agtgtttaga	ggggttggtg	actcacgaga	26700
tgacattcct	gctgatgtgt	gtcatgccct	ggggtggatg	aatgataaat	gaaaacagcg	26760
cttttaactt	ttgaaccac	tttctccttc	cttgtagcca	agacactatt	tgaattggct	26820
gcagagtctg	atgtgtccac	agccattgac	cttttcagac	aagccggcct	cggcaatcat	26880
ctctctggaa	gtgagcgggt	gacctcctg	gctcccctga	attctgtatt	caaaggtaac	26940
atggggaagg	catccctggt	agattgtccc	tggaggcagc	ttccccaccc	ctgtcacctc	27000
cacaacactc	tccgatttac	agcaccocat	gggacattag	aacttccact	cagctcaacc	27060
aaaagcagat	gtgacttcag	cagaaaacttc	agaggctctg	ttgtttcatt	aggcagtgca	27120
gagaatgcct	ttggggagcc	gttcctcaga	actcaagact	tgacatctgg	gaggcagccg	27180
ttcctcagaa	ctcaagactt	gacatctggg	agagcagagc	attcccttgc	ctttctattt	27240
gcagggtcac	ttgccaatgt	atagtcaaga	ggtcagagtg	agggtacagc	tgagctgcag	27300
cccaggaag	gcagagaagg	gggccaagtt	gtgtgcgtgc	ctgcccttcc	ctcttagggc	27360
aaaactccaa	acacccttga	ttatctggat	cttctttaat	tctccataga	agataccaga	27420

tgттаaggaa	tattggcagc	ttcacttggg	ttctcaatcc	ctgtttccaa	actcaaggag	27480
ggatgggctt	tttactgtat	tttatctctc	atcactctct	tcattgcagg	agcacatctc	27540
tctggaccta	accatcaccc	tttctttag	atggaacccc	tccaattgat	gcccatacaa	27600
ggaatttgct	tcggaaccac	ataattaaag	accagctggc	ctctaagtat	ctgtaccatg	27660
gacagaccct	ggaaactctg	ggcggcaaaa	aactgagagt	ttttgtttat	cgtaatgtaa	27720
gttctgggtc	ctaaatcatg	ctcctgggaa	gctccttact	gtgggacttg	tattagtgtat	27780
aaaaaaaaatg	tcctcaataa	gcaggagtgt	gcatgagaac	tggttgctga	caaggaagga	27840
aataattttct	ggaaaatata	gataacaaaa	tgagatcctg	cagaaggatt	ggaatctctt	27900
tttctggagg	cctttgagaa	taaaccacac	aattatccaa	cctgtattgt	gaaggaataa	27960
gtccttcttg	aattcaggaa	ttaacacctg	ggaggaggga	tggagttcag	actctttctg	28020
agcttatgag	aagagaagcc	ccctaaacta	aaatacagcc	ctccttgggc	caaaagggtgc	28080
cttctctctt	ctgctgtatc	ttctttgttt	tcaaacccaa	cagttaccct	ggaaatcaaa	28140
aaggaagtac	aactcaacat	agctcttgcc	tgggaccaac	cagcaccatt	tggctaaaga	28200
tggttatcat	ctgttaaaca	aagaaataaa	taaatgggtt	caacgtatgt	atttcaacat	28260
tgtcaatgga	cctcatgtgt	aactgatatt	ctcattatgg	gacctctgtg	tgactttatt	28320
ggggcctctc	taaccgttct	ttccttaagg	aagaccatgt	attgttttat	ttcctggaga	28380
aaatacatca	ttttatccca	gccttaataa	cccatcccag	tgtatactcc	ttcatcttca	28440
tggataatga	ccctgctaca	tgctctgaac	aatcaggag	gcccctcgtg	gaagtataac	28500
cagtcctttc	tttctctgtc	cctcttctgt	gcagagcctc	tgcatgaga	acagctgcat	28560
cgcggcccac	gacaagaggg	ggaggtacgg	gaccctgttc	acgatggacc	gggtgctgac	28620
ccccccaatg	gggactgtca	tggatgtcct	gaaggagag	aatcgcttta	ggtaattagt	28680
tccatccccg	ggtggagctt	ctgcccagtg	gtcatgctgg	agtgggatgt	ggggccccag	28740
ctatttgtca	agctttcttc	taccttgggg	attcaattaa	cactagcagt	gcactgctgc	28800
gaccttccag	acttgggatg	gggaaaaggc	aagggtcgcc	ttgaaagctt	acattgggaa	28860
gaagggttac	ttctaagagt	gtaatcttca	catgcatggg	aagcaggag	gggggactac	28920
atttttatga	ctgaagtgca	aggaaaacat	cacctctca	ttgtaaagct	ccaagtgagc	28980
caagagcaca	tagtttacag	tgacgatga	gcctctcact	ctctgcgcag	tatctgttta	29040
ttgcaactga	agcacccttg	tgagtttggt	ttcttgcccc	gctatctcca	tttctgactt	29100
gctcattcac	cttgggggtg	tgatcatatt	aatgtttccc	tgctactgac	ttcagccacc	29160
tgcacaaggg	cttggagacc	acacccctct	gccctcccag	aatcatatcc	ctggaggctc	29220

agctagtctc	tgggtcagcc	atacctctgc	cctttctttt	ccctcctttc	tcctgtggcc	29280
tctgacgtct	ggccatttaa	cagagcttag	catttttgct	gggtggagag	agctggagcc	29340
tggaatcact	ccctctttgt	gcatacggag	ggcatgaaaa	ccaaggtgtg	tgcattccag	29400
tggcctggac	tctactatcc	tcagtgggtga	ggtattttaag	gaaaatacct	ctcagcgtgg	29460
tgaggtattt	aaggaaaata	cctgttgaca	ggtgacattt	tctgtgtgtg	tatctacagc	29520
atgctggtag	ctgccatcca	gtctgcagga	ctgacggaga	ccctcaaccg	ggaaggagtc	29580
tacacagtct	ttgctcccac	aaatgaagcc	ttccgagccc	tgccaccaag	agaacggagc	29640
agactcttgg	gtaaagacca	acttaagtac	acgtctccat	ttttctaaag	tagtgatccc	29700
tcagggcccc	agcagcaaac	agttggcaca	tcaaggattg	acttgaaggg	attttatgac	29760
aagactatta	gtgaaagagt	gggcgggact	aaaggaacta	gcaaaggatg	aggccaacca	29820
gggactagca	accctgggaa	gcctttacta	cccctaggcc	tggggggaatg	ggaggatgag	29880
agcaggaacc	agggaggtca	tgagccttgg	acaagggcac	agaacagcag	ccagagccat	29940
gtgcagccag	ccactgtcag	aaccatgcaa	gggggaccac	tcagcgcccc	agcctccctc	30000
tcagacagtt	gccatctggg	tctcttgttg	gctgatgcga	gagcaggagg	gagcccactg	30060
atgcagttca	tagagctcag	cctcctgggc	aggaaaccgg	gcagagagga	gtagaaaaga	30120
attaaggggtg	gctgcgacca	gcccagtcac	tgaggcacgt	ttcccactgg	agacctatga	30180
gcacagtgat	aataaagcca	gttacctgca	ctgactatcc	ctccagacaa	aagctttccc	30240
aagaagttag	tcatggctct	gagagatcta	gttgaggatg	tttggcaggg	gatctagtgg	30300
ttacgggtgg	ctaagaaaaa	tgaggaaggt	aagagtatct	tgcagcctgt	gttgggagga	30360
ttaaatagga	tgccacacac	agggccaggc	agacagcctg	gtcagtaata	gccatgacga	30420
tgggggcggg	gggagcagga	atgggagttg	cagtgttttag	ctcagatgca	tgcctgtgag	30480
agatgcttcc	actctcacag	aaagatgaga	ccaaggaaaa	ggaggaggaa	gaggaaggac	30540
cttgacaaac	cttggggccc	acattgtcta	cacctccctt	cctgctctag	agcagaatag	30600
aaagttcagg	ttgcaggcag	ctctaagttg	aattcgtgtc	ctgtttaatt	ttctttattg	30660
ctaaatgaat	gcctgtgtct	gtgatgctga	cgtatgttcc	taaggagagg	ggagaagttc	30720
attctgaaca	taaacttttc	atcctctctc	tgtccagcaa	gaatggaata	ttccccaagt	30780
ggcctgagcc	agcttggctt	tctttttgtt	ttcaattatg	tgggagttga	ggagggggat	30840
gggaaaagct	tcccaaacac	accctcccc	aggcctgagg	cacctctggg	ggacagagag	30900
tgttagaggt	tggtacaggc	gttagagata	ttgaaaggac	atcccatgca	ccccaggggc	30960
tggtgtggct	ctgtacttcc	aggcaatatt	ttgtggaagg	ggaaccttgt	cagctccagg	31020

ttgtggatgt	ttgaaaatca	gttgggtaccc	agtgggtcca	tcctctggca	ggcatgtgga	31080
tttgtcaata	accaagtga	ctctccaaaa	taagttaaaa	cttcctccct	tctcagtttc	31140
aagatgctgg	aaatagctgt	tcataagccc	tggggaaatt	tagccctttg	gctggtaatg	31200
ggagtatccg	agatgagagg	gcagctggaa	actttcggaa	tgacctcca	cacttaattt	31260
gggaaatgcc	tctgcacctt	tatgggcaac	cagatgcctg	ccccagttgc	tggagacact	31320
gatgtgggct	gaaaggaatg	ctgagacgtg	acgaggagag	atgctgcgga	gggaatatcc	31380
ccctcagccc	tgacctcatc	ggctccatgg	ctcctccaca	gtacagctgt	ctactctttt	31440
aagttctccc	ttcaggaaat	agccatctca	aacagaatgt	gcatttgagg	gcagaatgtg	31500
taaatattgc	actactgtgt	tataaccgtc	aggagccatg	ctgatgatga	aacgtcccag	31560
atgccggtgc	tggaaaggtc	cctggctttc	caagcaaata	tttatctcat	ggaaacatga	31620
gtcatactca	cagaggagta	tggattaact	ccttctcagc	agccagggag	cccagcatcc	31680
cagacagcat	atttaacca	gaggccaact	gactgctggg	gcagatttgt	ggtcatgaac	31740
atgtgctttg	tgtcctctga	ccattagaca	gattgtgggt	cacaacgttg	agtatacagt	31800
gggagcttaa	taagtgttta	ttccctgggc	agggagttct	tcatttcagg	ggtgaccact	31860
tacatcttct	cctctgggccc	ctccttgacc	aggctaatta	ccattcttgg	gattaactct	31920
atctcctttt	cccgcaacct	gcaggagatg	ccaaggaact	tgccaacatc	ctgaaatacc	31980
acattgggtga	tgaaatcctg	gttagcggag	gcacgggggc	cctgggtgcgg	ctaaagtctc	32040
tccaaggtga	caagctggaa	gtcagcttgg	taagtgtcct	gcaaatcaaa	ggctggctaa	32100
atttccccag	ggcagggctc	caggacatat	ctcaccacca	ggatggaatt	atacacacac	32160
aaccttcaag	ttgcagcccg	aatctctgag	tgtaattcgt	ccaaagaaaa	agagaaaaga	32220
gaagaggggtc	ttcagggaaa	tcaagtgaga	tcatagttag	acatgagtaa	gaacttccag	32280
atttacaagg	gaatagagca	tctgatttgg	catctgagag	aggctattag	atcttccttc	32340
tcttaaggag	gttgtaggca	actagttaatg	tgactgaaga	gatcagtctg	tactcacacc	32400
atcccccccc	ccaaaccacg	ggcttcaactg	agttgtacca	tgaaccagac	catccaaga	32460
ggctttttga	gttctgacac	ttgctctgtg	agccttccct	tgctctgcac	attgatgata	32520
taactttgta	actgcactaa	gagtgttctc	aaagcagata	gccagccgag	ctccagaaat	32580
ctccctgggt	gcacctgcag	aggccactga	ccctctgtg	gagggaccgc	tcttcagtgt	32640
gtggctgggt	tctactctct	gtcctctctc	cttgggtcttc	agccatccat	tgctcaccag	32700
tttctcacca	ggagcatagg	aagatatgca	tgtagggagg	taggcacggg	gatgacttgt	32760
ttgactttaa	gcaggtcatt	caagaatctc	ctcgcaactg	gtttcagatg	ctggggctct	32820

gtctgtcaca	ggcttctgtg	cctcctaccc	ccttgagttt	gtcacatggc	ccttcaggaa	32880
ggcctgagat	agatttgccc	tgggtgggccc	tcctatgaga	aaatcttaag	tgaggcaccc	32940
aggcaaaatg	gaaagagcct	tttgcccaga	gcaggaagcc	tgtcttccat	ttccagctgt	33000
tccacctact	tagcttaaaa	gaggcacttc	gcctgtcttc	agtctcagtc	tcagtctcct	33060
cttctgtgga	atgggacaat	aatatctact	ctccttatca	tacactgctg	tgaggactga	33120
gtggatcaca	caaaaaagca	ttatgtaa	tgcaaagtgc	taaatccaca	caggagattt	33180
gaattaatcc	accacactga	aggtctgtca	agggcaggga	ctgtttcatt	caccagagta	33240
tccccagttc	tacacaggac	ttggcatatg	aaaagtgttc	agtaggccgg	gtgcagtggc	33300
tcatgcctgt	aatcccagca	ctttgggagg	ccaaagtggg	cggatcatct	gaggtcagga	33360
gttcaagtcc	agcctggcca	acgtggtgaa	acctcatctc	tactaaaaat	acaaaattag	33420
ctgggcgtgg	tggcacatgc	ctgtaatcac	agctactctg	gaggctgagg	caggagaatc	33480
acttgaaccc	aggaggcgga	ggttgcagtg	agtcgagatc	atgccactgc	actccagcct	33540
gggcgacaag	attgaaactc	catctcaaaa	acaaagaaca	aggaaaaaaa	cgaaaactgt	33600
tcagtaaaca	cttgctgagt	gaataaaata	aataaataaa	tgtataaata	aatgctctac	33660
tttcaaccac	tactctgttt	ttctttttaga	aaaacaatgt	ggtgagtgtc	aacaaggagc	33720
ctgttgccga	gcctgacatc	atggccacaa	atggcggtgt	ccatgtcatc	accaatgttc	33780
tgcagcctcc	aggtaagtgt	cgcatcccca	ctgactctgc	agccagtcct	tttctccatg	33840
tggcagttgg	tggagagaag	aaaaactggt	ctaaacaatg	atgagaataa	catgtaattg	33900
tgatagttaa	actgtgccta	tgtgactgat	tgacagagtga	attgggagct	gttgggtttg	33960
aatgcaccac	actaaggaat	gtgaggacac	attgctcttt	gcggagttgc	ccagctatat	34020
tagtccccct	cggacacagc	ccagttttct	gtattcgogt	ggatgctgtc	cgcgcgattc	34080
ccagcactcc	tcttacagca	tctcacctca	gtgtatgttc	cttgccctcca	gtgcagttga	34140
acctcagttc	tgctctcct	catgtgtgca	ttcacctttc	ttggcgctct	ctccccatgg	34200
gccaaattct	accatgagtt	atgaaacatt	atggagaaaa	catgtctttg	gaaatgtgag	34260
ccagaaagcc	caccagtgcc	cctcagtcac	ggttggttatg	aatgacatgc	taatggtttc	34320
actctggtca	aacctgcctt	ttcttttctc	ttcagccaac	agacctcagg	aaagagggga	34380
tgaacttgca	gactctgcgc	ttgagatctt	caaacaagca	tcagcgtttt	ccagggttaag	34440
atgcctgcta	ggtttgcgcc	tagcctgagc	agcctcaggt	cctctgtttg	ggccatagag	34500
gagcctctcc	agccccgtgc	ttccttgggt	gtcccccagg	gtctctctaa	aacttctccc	34560
cactcccact	gaggcatcct	cagccccagc	ctgtgtcaaa	ttcagagtaa	agaaccaagg	34620

caactccctg gctttcatgg gccaaagcgc aggcctttcac accgaggcct ctgagcctca	34680
gatcatgggg aagtcaactgc tggagagAAC agacatagct ctggaagcca tctgcccAag	34740
agggcagccc atcccaagtt catcttacag tggccaggcc tgccctgagc cggggcctct	34800
gggtcactct tctgctgtcc atggcattgc ccatcctggg tgaggctggg gctctcctgg	34860
gcactgtatg tattctggat acagggatac tgggctcgct atgtgtgtgg agccatccct	34920
tccttgcccc agccccacct cctctcaaa cctctctgg ctctttctga gcttcctttc	34980
ctgctcccca gcttgcccag tgctcagtgc ccacttggc tcttttgcta cttcgggtca	35040
ggtggagcct cttgggaatg tgaagtgcct tacagaaaga ttgcacttca agaggagagg	35100
ctgcagggag ccatcctaaa ccagaggcc tggagcttac tgtgtcactt tacttttgta	35160
cacaggggtc tccttagtgc cctcgagaag gattcttggc cctgagcttc tactcctgag	35220
gccacctctg tgcagcccca gctccctcaa ctctaggctg tagtctcagt gggaaagcct	35280
ggcttggggg tctcctagga atgtccacct gaaggcacac ttgatagggg cttgcacaac	35340
ttatgtctgc caaggccacc tgaggaactc cctggtgcct ataagttcca ccttcccctt	35400
cctcttctc gccccagcat tttttctgag taggggtggc aatgggcaaa gccattgtca	35460
taagcagttg caggtataac ttctactaga aaacctgaca ccttgtgttt tctttcaggc	35520
ttcccagagg tctgtgcgac taggtgagtc tggctctggg ttgaagtcac tgcagacctg	35580
tttaggcctt acccccAagc aagcccAagc ctgccatctg ctgtatatag ataagaacat	35640
catggtgcag taaaagaagc ctggcctttg gagtcagaac agcaggggtga cttgggggtca	35700
gaccagagc accccatttc cttctctgta agatgaggat aataagagta acaacctttt	35760
agggttAagg tgagttttca gcttaggaag tctgggaata ttgcaaaggg cttggcagga	35820
acccatggtg aggatctagt tccaagttga taggtacaga aaaccagaac atcgggcctt	35880
gagtaaagag tgaagtttca caaaccacaa agcacctgct atgtgcagga gagcatggca	35940
gaaggaggct gcttggccct ggtccttgag attctgacag tgtcctagac agacatgggg	36000
agatctgcac ctatttgacg ttaccaactt ctctttttca gccctgtct atcaaaagtt	36060
attagagagg atgaagcatt agcttgaagc actacaggag gaatgcacca cggcagctct	36120
cgcCaattt ctctcagatt tccacagaga ctgtttgaat gttttcaaaa ccaagtatca	36180
cactttaatg tacatgggcc gcaccataat gagatgtgag ccttgtgcat gtgggggagg	36240
agggagagag atgtactttt taaatcatgt tccccataa catggctgtt aaccactgc	36300
atgcagaaac ttggatgtca ctgcctgaca ttcacttcca gagaggacct atcccaaag	36360
tggaattgac tgcctatgcc aagtcctgg aaaaggagct tcagtattgt ggggctcata	36420


```

aaacatgaat caagcaatcc agcctcatgg gaagtcctgg cacagttttt gtaaagccct 36480
tgcacagctg gagaaatggc atcattataa gctatgagtt gaaatgttct gtcaaagtgt 36540
tctcacatct acacgtggct tggaggcttt tatggggccc tgtccaggta gaaaagaaat 36600
ggtatgtaga gcttagattt ccctattgtg acagagccat ggtgtgtttg taataataaa 36660
accaaagaaa catacgtcct gtgtgcatgg tacagtgtgc tgacctgagg ccgtcatgct 36720
cctccacacc tcaattctgc tctggagaag ctcagaaagg agccccgagg gatgggtttg 36780
gggagattcc agcagccagc cctcagacag ccagacagct catggggggt tgagcctgtc 36840
tttgccaaac aggtttttat ttcaccctcc tccggctctg gggtttcaag ttttcagtgt 36900
tgccttcacc ccgcacttta ttctctttat tacttggaag taccttcctt ccagcatggt 36960
gatcccttgc ctgtgtgctg gacttttgag tcctcagcac caacctgtga agtgggtgcc 37020
agcataatcc cattatgcag atgaggagac caaggcccag ggaagggaga accaccagca 37080
gcacgtaaaa tagctgagct gggactggaa ctcacacctc ctgactctca gtgaccacca 37140
ctgacaacag cataagtcca ggttttccag gcccatcccc tctgtgccaa cccacattca 37200
gattccttcc ccggctcccg taatctctgg catctagaat atcctcagga ctctgagagg 37260
tgatatcatg tggtttgtgt gccattgccc cctacctgtg tggcctgggg ccagtcatgt 37320
gacctccag ggtctcctct tctgtaatag ggagatgacc gtcacatcta cttcatgggt 37380
ccatcgtgag gatgaaatga gatgatctat ataaaatgct tggtaacaac ttaggtggcc 37440
ttatttttat cctgccgtct gggactgctc aggatcaatg cgccagagag cctttatttg 37500
tgtctttccc acaggtgggc tggcccactt tcctagagaa tgggacagac ctccttccca 37560
cccacaccca tctctgccaa ggctgattca ctccagcagg cggagctcat ttcacttcat 37620
ggaaccaatg acccaaagat atatccccag cactactgct ggtcagtcca ctgctgctgg 37680
gaatacagca atggtagtgg cagacagagg ccctctctta aatagcttcc agtctgagga 37740
aagagagata tgacatcaat ccattaaaat cattcatcca ttggttcac aaatatt 37797

```

```

<210> 77
<211> 683
<212> PRT
<213> Homo sapiens

```

```
<400> 77
```

```

Met Ala Leu Phe Val Arg Leu Leu Ala Leu Ala Leu Ala Leu Ala Leu
1           5           10           15

```

```
Gly Pro Ala Ala Thr Leu Ala Gly Pro Ala Lys Ser Pro Tyr Gln Leu
```

20					25					30					
Val	Leu	Gln	His	Ser	Arg	Leu	Arg	Gly	Arg	Gln	His	Gly	Pro	Asn	Val
	35						40					45			
Cys	Ala	Val	Gln	Lys	Val	Ile	Gly	Thr	Asn	Arg	Lys	Tyr	Phe	Thr	Asn
	50					55					60				
Cys	Lys	Gln	Trp	Tyr	Gln	Arg	Lys	Ile	Cys	Gly	Lys	Ser	Thr	Val	Ile
65					70					75					80
Ser	Tyr	Glu	Cys	Cys	Pro	Gly	Tyr	Glu	Lys	Val	Pro	Gly	Glu	Lys	Gly
				85					90					95	
Cys	Pro	Ala	Ala	Leu	Pro	Leu	Ser	Asn	Leu	Tyr	Glu	Thr	Leu	Gly	Val
			100					105					110		
Val	Gly	Ser	Thr	Thr	Thr	Gln	Leu	Tyr	Thr	Asp	Arg	Thr	Glu	Lys	Leu
	115						120					125			
Arg	Pro	Glu	Met	Glu	Gly	Pro	Gly	Ser	Phe	Thr	Ile	Phe	Ala	Pro	Ser
	130					135					140				
Asn	Glu	Ala	Trp	Ala	Ser	Leu	Pro	Ala	Glu	Val	Leu	Asp	Ser	Leu	Val
145					150					155					160
Ser	Asn	Val	Asn	Ile	Glu	Leu	Leu	Asn	Ala	Leu	Arg	Tyr	His	Met	Val
				165					170					175	
Gly	Arg	Arg	Val	Leu	Thr	Asp	Glu	Leu	Lys	His	Gly	Met	Thr	Leu	Thr
			180					185					190		
Ser	Met	Tyr	Gln	Asn	Ser	Asn	Ile	Gln	Ile	His	His	Tyr	Pro	Asn	Gly
	195						200					205			
Ile	Val	Thr	Val	Asn	Cys	Ala	Arg	Leu	Leu	Lys	Ala	Asp	His	His	Ala
	210					215					220				
Thr	Asn	Gly	Val	Val	His	Leu	Ile	Asp	Lys	Val	Ile	Ser	Thr	Ile	Thr
225					230					235					240
Asn	Asn	Ile	Gln	Gln	Ile	Ile	Glu	Ile	Glu	Asp	Thr	Phe	Glu	Thr	Leu
				245					250					255	
Arg	Ala	Ala	Val	Ala	Ala	Ser	Gly	Leu	Asn	Thr	Met	Leu	Glu	Gly	Asn

260	265	270
Gly Gln Tyr Thr Leu Leu Ala Pro Thr Asn Glu Ala Phe Glu Lys Ile		
275	280	285
Pro Ser Glu Thr Leu Asn Arg Ile Leu Gly Asp Pro Glu Ala Leu Arg		
290	295	300
Asp Leu Leu Asn Asn His Ile Leu Lys Ser Ala Met Cys Ala Glu Ala		
305	310	315
Ile Val Ala Gly Leu Ser Val Glu Thr Leu Glu Gly Thr Thr Leu Glu		
325	330	335
Val Gly Cys Ser Gly Asp Met Leu Thr Ile Asn Gly Lys Ala Ile Ile		
340	345	350
Ser Asn Lys Asp Ile Leu Ala Thr Asn Gly Val Ile His Tyr Ile Asp		
355	360	365
Glu Leu Leu Ile Pro Asp Ser Ala Lys Thr Leu Phe Glu Leu Ala Ala		
370	375	380
Glu Ser Asp Val Ser Thr Ala Ile Asp Leu Phe Arg Gln Ala Gly Leu		
385	390	395
Gly Asn His Leu Ser Gly Ser Glu Arg Leu Thr Leu Leu Ala Pro Leu		
405	410	415
Asn Ser Val Phe Lys Asp Gly Thr Pro Pro Ile Asp Ala His Thr Arg		
420	425	430
Asn Leu Leu Arg Asn His Ile Ile Lys Asp Gln Leu Ala Ser Lys Tyr		
435	440	445
Leu Tyr His Gly Gln Thr Leu Glu Thr Leu Gly Gly Lys Lys Leu Arg		
450	455	460
Val Phe Val Tyr Arg Asn Ser Leu Cys Ile Glu Asn Ser Cys Ile Ala		
465	470	475
Ala His Asp Lys Arg Gly Arg Tyr Gly Thr Leu Phe Thr Met Asp Arg		
485	490	495
Val Leu Thr Pro Pro Met Gly Thr Val Met Asp Val Leu Lys Gly Asp		

500	505	510
Asn Arg Phe Ser Met Leu Val Ala Ala Ile Gln Ser Ala Gly Leu Thr 515	520	525
Glu Thr Leu Asn Arg Glu Gly Val Tyr Thr Val Phe Ala Pro Thr Asn 530	535	540
Glu Ala Phe Arg Ala Leu Pro Pro Arg Glu Arg Ser Arg Leu Leu Gly 545	550	555
Asp Ala Lys Glu Leu Ala Asn Ile Leu Lys Tyr His Ile Gly Asp Glu 565	570	575
Ile Leu Val Ser Gly Gly Ile Gly Ala Leu Val Arg Leu Lys Ser Leu 580	585	590
Gln Gly Asp Lys Leu Glu Val Ser Leu Lys Asn Asn Val Val Ser Val 595	600	605
Asn Lys Glu Pro Val Ala Glu Pro Asp Ile Met Ala Thr Asn Gly Val 610	615	620
Val His Val Ile Thr Asn Val Leu Gln Pro Pro Ala Asn Arg Pro Gln 625	630	635
Glu Arg Gly Asp Glu Leu Ala Asp Ser Ala Leu Glu Ile Phe Lys Gln 645	650	655
Ala Ser Ala Phe Ser Arg Ala Ser Gln Arg Ser Val Arg Leu Ala Pro 660	665	670
Val Tyr Gln Lys Leu Leu Glu Arg Met Lys His 675	680	

<210> 78
 <211> 660
 <212> DNA
 <213> Homo sapiens

<400> 78	
aaaaaacagc ccggagcctg cagcccagcc ccacccagac ccatggctgg acctgccacc	60
cagagcccca tgaagctgat ggccctgcag ctgctgctgt ggcacagtgc actctggaca	120
gtgcaggaag ccacccccct gggccctgcc agctccctgc ccagagctt cctgctcaag	180
tgcttagagc aagtgaggaa gatccagggc gatggcgag cgctccagga gaagctgtgt	240

gccacctaca agctgtgcc a ccccgaggag ctggtgctgc tcggacactc tctgggcatc 300
ccctgggctc ccctgagcag ctgccccagc caggccctgc agctggcagg ctgcttgagc 360
caactccata ggggcctttt cctctaccag gggctcctgc aggccttgga agggatctcc 420
cccgagttgg gtccacactt ggacacactg cagctggacg tcgccgactt tgccaccacc 480
atctggcagc agatggaaga actgggaatg gccctgccc tgcagccac ccagggtgcc 540
atgccggcct tcgcctctgc tttccagcgc cgggcaggag gggctctagt tgcctcccat 600
ctgcagagct tcctggaggt gtcgtaccgc gttctacgcc accttgccca gccctgagcc 660

<210> 79
<211> 204
<212> PRT
<213> Homo sapiens

<400> 79

Met Ala Gly Pro Ala Thr Gln Ser Pro Met Lys Leu Met Ala Leu Gln
1 5 10 15

Leu Leu Leu Trp His Ser Ala Leu Trp Thr Val Gln Glu Ala Thr Pro
20 25 30

Leu Gly Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu Leu Lys Cys Leu
35 40 45

Glu Gln Val Arg Lys Ile Gln Gly Asp Gly Ala Ala Leu Gln Glu Lys
50 55 60

Leu Cys Ala Thr Tyr Lys Leu Cys His Pro Glu Glu Leu Val Leu Leu
65 70 75 80

Gly His Ser Leu Gly Ile Pro Trp Ala Pro Leu Ser Ser Cys Pro Ser
85 90 95

Gln Ala Leu Gln Leu Ala Gly Cys Leu Ser Gln Leu His Ser Gly Leu
100 105 110

Phe Leu Tyr Gln Gly Leu Leu Gln Ala Leu Glu Gly Ile Ser Pro Glu
115 120 125

Leu Gly Pro Thr Leu Asp Thr Leu Gln Leu Asp Val Ala Asp Phe Ala
130 135 140

Thr Thr Ile Trp Gln Gln Met Glu Glu Leu Gly Met Ala Pro Ala Leu

145		150		155		160
Gln Pro Thr Gln Gly Ala Met Pro Ala Phe Ala Ser Ala Phe Gln Arg						
		165		170		175
Arg Ala Gly Gly Val Leu Val Ala Ser His Leu Gln Ser Phe Leu Glu						
		180		185		190
Val Ser Tyr Arg Val Leu Arg His Leu Ala Gln Pro						
	195		200			

<210> 80
 <211> 2475
 <212> DNA
 <213> Homo sapiens

<400> 80
 agccgctctc cgcatcccag gacagcgggtg cggccctcgg ccggggcgcc cactccgcag 60
 caccacgcga gcgagcgagc gagcgagggc ggccgacgcg cccggccggg acccagctgc 120
 ccgtatgacc ggcgcggggc ccgcccgggc ctgccctccc acgacatggc tgggctccct 180
 gctgttggtg gtctgtctcc tggcgagcag gagtatcacc gaggaggtgt cggagtactg 240
 tagccacatg attgggagtg gacacctgca gtctctgcag cggctgattg acagtcagat 300
 ggagacctcg tgccaaatta catttgagtt tgtagaccag gaacagttga aagatccagt 360
 gtgctacctt aagaaggcat ttctcctggt acaagacata atggaggaca ccatgcgctt 420
 cagagataac acccccattg ccatcgccat tgtgcagctg caggaactct ctttgaggct 480
 gaagagctgc ttcaccaagg attatgaaga gcatgacaag gcctgcgtcc gaactttcta 540
 tgagacacct ctccagttgc tggagaaggc caagaatgtc tttaatgaaa caaagaatct 600
 ccttgacaag gactggaata ttttcagcaa gaactgcaac aacagctttg ctgaatgctc 660
 cagccaagat gtggtgacca agcctgattg caactgcctg taccctaaag ccatccctag 720
 cagtgacctg gcctctgtct cccctcatca gccctcgcg ccctccatgg cccctgtggc 780
 tggcttgacc tgggaggact ctgagggaac tgagggcagc tccctcttgc ctggtgagca 840
 gccctgcac acagtggatc caggcagtg ccaagcagcg ccaccagga gcacctgcca 900
 gagctttgag ccgccagaga cccagttgt caaggacagc accatcggtg gctcaccaca 960
 gcctcgcccc tctgtcgggg ccttcaacct cgggatggag gatattcttg actctgcaat 1020
 gggcactaat tgggtcccag aagaagcctc tggagaggcc agtgagattc ccgtaccca 1080
 agggacagag ctttccccct ccaggccagg agggggcagc atgcagacag agcccgccag 1140
 acccagcaac ttctctcag catcttctcc actcctgca tcagcaaagg gccaacagcc 1200

ggcagatgta actggtaccg ccttgcccag ggtgggcccc gtgaggccca ctggccagga 1260
 ctggaatcac acccccacaga agacagacca tccatctgcc ctgctcagag acccccggga 1320
 gccaggctct cccaggatct catcacgcgc ccccagggc ctcagcaacc cctccaccct 1380
 ctctgctcag ccacagcttt ccagaagcca ctctcgggc agcgtgctgc cccttgggga 1440
 gctggagggc aggaggagca ccagggatcg gaggagcccc gcagagccag aaggaggacc 1500
 agcaagtgaa ggggcagcca ggcccctgcc ccgttttaac tccgttcctt tgactgacac 1560
 acatgagagg cagtccgagg gatcctccag cccgcagctc caggagtctg tcttccacct 1620
 gctggtgccc agtgtcatcc tgggtcttgc ggccgtcgga ggcctcttgt tctacaggtg 1680
 gagggcggcg agccatcaag agcctcagag agcggattct cccttggagc aaccagaggg 1740
 cagccccctc actcaggatg acagacaggt ggaactgcca gtgtagaggg aattctaaga 1800
 cccctcacca tcttggaacac tctcgtttgt caatgtccct ctgaaaatgt gacgcccagc 1860
 cccggacaca gtactccaga tgttgtctga ccagctcaga gagagtacag tgggactgtt 1920
 accttccttg atatggacag tattcttcta tttgtgcaga ttaagattgc attagttttt 1980
 ttcttaacaa ctgcatcata ctgttgtcat atgttgagcc tgtggtctat aaaacccta 2040
 gttccatttc ccataaactt ctgtcaagcc agaccatctc taccctgtac ttggacaact 2100
 taactttttt aaccaaagtg cagtttatgt tcaccttgt taaagccacc ttgtggtttc 2160
 tgcccatcac ctgaacctac tgaagttgtg tgaaatccta attctgtcat ctccgtagcc 2220
 ctcccagttg tgcctcctgc acattgatga gtgcctgctg ttgtctttgc ccatgttggt 2280
 gatgtagctg tgacctatt gtccctcacc cctgcccccc gccaaaccca gctggcccac 2340
 ctcttcccc tcccaccaa gccacagcc agcccatcag gaagccttcc tggcttctcc 2400
 acaaccttct gactgtcttt tcagtcattgc cccctgctct tttgtatttg gctaatagta 2460
 tatcaatttg cactt 2475

<210> 81
 <211> 553
 <212> PRT
 <213> Homo sapiens

<400> 81

Met Thr Ala Pro Gly Ala Ala Gly Arg Cys Pro Pro Thr Thr Trp Leu
 1 5 10 15

Gly Ser Leu Leu Leu Val Cys Leu Leu Ala Ser Arg Ser Ile Thr
 20 25 30

Glu	Glu	Val	Ser	Glu	Tyr	Cys	Ser	His	Met	Ile	Gly	Ser	Gly	His	Leu	35	40	45	
Gln	Ser	Leu	Gln	Arg	Leu	Ile	Asp	Ser	Gln	Met	Glu	Thr	Ser	Cys	Gln	50	55	60	
Ile	Thr	Phe	Glu	Phe	Val	Asp	Gln	Glu	Gln	Leu	Lys	Asp	Pro	Val	Cys	65	70	75	80
Tyr	Leu	Lys	Lys	Ala	Phe	Leu	Leu	Val	Gln	Asp	Ile	Met	Glu	Asp	Thr	85	90	95	
Met	Arg	Phe	Arg	Asp	Asn	Thr	Pro	Asn	Ala	Ile	Ala	Ile	Val	Gln	Leu	100	105	110	
Gln	Glu	Leu	Ser	Leu	Arg	Leu	Lys	Ser	Cys	Phe	Thr	Lys	Asp	Tyr	Glu	115	120	125	
Glu	His	Asp	Lys	Ala	Cys	Val	Arg	Thr	Phe	Tyr	Glu	Thr	Pro	Leu	Gln	130	135	140	
Leu	Leu	Glu	Lys	Val	Lys	Asn	Val	Phe	Asn	Glu	Thr	Lys	Asn	Leu	Leu	145	150	155	160
Asp	Lys	Asp	Trp	Asn	Ile	Phe	Ser	Lys	Asn	Cys	Asn	Asn	Ser	Phe	Ala	165	170	175	
Glu	Cys	Ser	Ser	Gln	Asp	Val	Val	Thr	Lys	Pro	Asp	Cys	Asn	Cys	Leu	180	185	190	
Tyr	Pro	Lys	Ala	Ile	Pro	Ser	Ser	Asp	Pro	Ala	Ser	Val	Ser	Pro	His	195	200	205	
Gln	Pro	Leu	Ala	Pro	Ser	Met	Ala	Pro	Val	Ala	Gly	Leu	Thr	Trp	Glu	210	215	220	
Asp	Ser	Glu	Gly	Thr	Glu	Gly	Ser	Ser	Leu	Leu	Pro	Gly	Glu	Gln	Pro	225	230	235	240
Leu	His	Thr	Val	Asp	Pro	Gly	Ser	Ala	Lys	Gln	Arg	Pro	Pro	Arg	Ser	245	250	255	
Thr	Cys	Gln	Ser	Phe	Glu	Pro	Pro	Glu	Thr	Pro	Val	Val	Lys	Asp	Ser	260	265	270	

Thr Ile Gly Gly Ser Pro Gln Pro Arg Pro Ser Val Gly Ala Phe Asn
 275 280 285
 Pro Gly Met Glu Asp Ile Leu Asp Ser Ala Met Gly Thr Asn Trp Val
 290 295 300
 Pro Glu Glu Ala Ser Gly Glu Ala Ser Glu Ile Pro Val Pro Gln Gly
 305 310 315 320
 Thr Glu Leu Ser Pro Ser Arg Pro Gly Gly Gly Ser Met Gln Thr Glu
 325 330 335
 Pro Ala Arg Pro Ser Asn Phe Leu Ser Ala Ser Ser Pro Leu Pro Ala
 340 345 350
 Ser Ala Lys Gly Gln Gln Pro Ala Asp Val Thr Gly Thr Ala Leu Pro
 355 360 365
 Arg Val Gly Pro Val Arg Pro Thr Gly Gln Asp Trp Asn His Thr Pro
 370 375 380
 Gln Lys Thr Asp His Pro Ser Ala Leu Leu Arg Asp Pro Pro Glu Pro
 385 390 395 400
 Gly Ser Pro Arg Ile Ser Ser Pro Arg Pro Gln Gly Leu Ser Asn Pro
 405 410 415
 Ser Thr Leu Ser Ala Gln Pro Gln Leu Ser Arg Ser His Ser Ser Gly
 420 425 430
 Ser Val Leu Pro Leu Gly Glu Leu Glu Gly Arg Arg Ser Thr Arg Asp
 435 440 445
 Arg Arg Ser Pro Ala Glu Pro Glu Gly Gly Pro Ala Ser Glu Gly Ala
 450 455 460
 Ala Arg Pro Leu Pro Arg Phe Asn Ser Val Pro Leu Thr Asp Thr His
 465 470 475 480
 Glu Arg Gln Ser Glu Gly Ser Ser Ser Pro Gln Leu Gln Glu Ser Val
 485 490 495
 Phe His Leu Leu Val Pro Ser Val Ile Leu Val Leu Leu Ala Val Gly
 500 505 510

Gly Leu Leu Phe Tyr Arg Trp Arg Arg Arg Ser His Gln Glu Pro Gln
515 520 525

Arg Ala Asp Ser Pro Leu Glu Gln Pro Glu Gly Ser Pro Leu Thr Gln
530 535 540

Asp Asp Arg Gln Val Glu Leu Pro Val
545 550

<210> 82
<211> 505
<212> DNA
<213> Homo sapiens

<400> 82
aaagttctct ggaggatgtg gctgcagagc ctgctgctct tgggcactgt ggcctgcagc 60
atctctgcac ccgcccgtc gccagcccc agcacacagc cctgggagca tgtgaatgcc 120
atccaggagg ccggcgtct cctgaacctg agtagagaca ctgctgctga gatgaatgaa 180
acagtagaag tcatctcaga aatgtttgac ctccaggagc cgacctgcct acagaccgc 240
ctggagctgt acaagcaggg cctgcggggc agcctcacca agctcaaggg ccccttgacc 300
atgatggcca gccactacaa acagcactgc cctccaacct cggaacttc ctgtgcaacc 360
cagattatca cctttgaaag tttcaaagag aacctgaagg actttctgct tgtcatcccc 420
tttgactgct gggagccagt ccaggagtga gaccggccag atgaggctgg ccaagccggg 480
gagctgctct ctcatgaaac aagag 505

<210> 83
<211> 144
<212> PRT
<213> Homo sapiens

<400> 83

Met Trp Leu Gln Ser Leu Leu Leu Leu Gly Thr Val Ala Cys Ser Ile
1 5 10 15

Ser Ala Pro Ala Arg Ser Pro Ser Pro Ser Thr Gln Pro Trp Glu His
20 25 30

Val Asn Ala Ile Gln Glu Ala Arg Arg Leu Leu Asn Leu Ser Arg Asp
35 40 45

Thr Ala Ala Glu Met Asn Glu Thr Val Glu Val Ile Ser Glu Met Phe
50 55 60

Asp Leu Gln Glu Pro Thr Cys Leu Gln Thr Arg Leu Glu Leu Tyr Lys
65 70 75 80

Gln Gly Leu Arg Gly Ser Leu Thr Lys Leu Lys Gly Pro Leu Thr Met
85 90 95

Met Ala Ser His Tyr Lys Gln His Cys Pro Pro Thr Pro Glu Thr Ser
100 105 110

Cys Ala Thr Gln Ile Ile Thr Phe Glu Ser Phe Lys Glu Asn Leu Lys
115 120 125

Asp Phe Leu Leu Val Ile Pro Phe Asp Cys Trp Glu Pro Val Gln Glu
130 135 140

<210> 84
<211> 1080
<212> DNA
<213> Homo sapiens

<400> 84
ccgggggggca tgagggtccg agacttggtc ttctgtccct tccaagaccc ggcgacagga 60
ggcatgaggg gccccggcc gaaatgacag tgctggcgcc agcctggagc ccaacaacct 120
atctcctcct gctgctgctg ctgagctcgg gactcagtgg gaccaggac tgctccttcc 180
aacacagccc catctcctcc gacttcgctg tcaaaatccg tgagctgtct gactacctgc 240
ttcaagatta cccagtcacc gtggcctcca acctgcagga cgaggagctc tgcggggggc 300
tctggcggct ggtcctggca cagcgtgga tggagcggct caagactgtc gctgggtcca 360
agatgcaagg cttgctggag cgctgaaca cggagataca ctttgtcacc aaatgtgcct 420
ttcagcccc cccagctgt cttcgcttcg tccagaccaa catctccgc ctctgcagg 480
agacctccga gcagctggtg gcgctgaagc cctggatcac tcgccagaac ttctccggt 540
gcctggagct gcagtgtcag cccgactcct caacctgcc accccatgg agtccccggc 600
ccctggagge cacagccccg acagccccgc agccccctct gtcctccta ctgctgctgc 660
ccgtgggcct cctgctgctg gccgtgcct ggtgcctgca ctggcagagg acgcggcgga 720
ggacaccccg ccctggggag cagggtcccc ccgtccccag tcccaggac ctgctgcttg 780
tgagcactg acctggccaa ggcctcatcc tgcggagcct taaacaacgc agtgagacag 840
acatctatca tcccatttta caggggagga tactgaggca cacagagggg agtcaccagc 900
cagaggatgt atagcctgga cacagaggaa gttggctaga ggccggtccc ttccttgggc 960
ccctctcatt ccctccccag aatggaggca acgccagaat ccagcaccgg cccatttac 1020

ccaactctga acaaagccct tgcccccattg aaattgttta taaatcatcc ttttctccca 1080

<210> 85

<211> 235

<212> PRT

<213> Homo sapiens

<400> 85

Met Thr Val Leu Ala Pro Ala Trp Ser Pro Thr Thr Tyr Leu Leu Leu
1 5 10 15

Leu Leu Leu Leu Ser Ser Gly Leu Ser Gly Thr Gln Asp Cys Ser Phe
20 25 30

Gln His Ser Pro Ile Ser Ser Asp Phe Ala Val Lys Ile Arg Glu Leu
35 40 45

Ser Asp Tyr Leu Leu Gln Asp Tyr Pro Val Thr Val Ala Ser Asn Leu
50 55 60

Gln Asp Glu Glu Leu Cys Gly Gly Leu Trp Arg Leu Val Leu Ala Gln
65 70 75 80

Arg Trp Met Glu Arg Leu Lys Thr Val Ala Gly Ser Lys Met Gln Gly
85 90 95

Leu Leu Glu Arg Val Asn Thr Glu Ile His Phe Val Thr Lys Cys Ala
100 105 110

Phe Gln Pro Pro Pro Ser Cys Leu Arg Phe Val Gln Thr Asn Ile Ser
115 120 125

Arg Leu Leu Gln Glu Thr Ser Glu Gln Leu Val Ala Leu Lys Pro Trp
130 135 140

Ile Thr Arg Gln Asn Phe Ser Arg Cys Leu Glu Leu Gln Cys Gln Pro
145 150 155 160

Asp Ser Ser Thr Leu Pro Pro Pro Trp Ser Pro Arg Pro Leu Glu Ala
165 170 175

Thr Ala Pro Thr Ala Pro Gln Pro Pro Leu Leu Leu Leu Leu Leu Leu
180 185 190

Pro Val Gly Leu Leu Leu Leu Ala Ala Ala Trp Cys Leu His Trp Gln

195

200

205

Arg Thr Arg Arg Arg Thr Pro Arg Pro Gly Glu Gln Val Pro Pro Val
 210 215 220

Pro Ser Pro Gln Asp Leu Leu Leu Val Glu His
 225 230 235

<210> 86
 <211> 1321
 <212> DNA
 <213> Homo sapiens

<400> 86
 ccgcctcgcg ccgagactag aagcgctgcg ggaagcaggg acagtggaga gggcgctgcg 60
 ctctgggctac ccaatgcgtg gactatctgc cgccgctgtt cgtgcaatat gctggagctc 120
 cagaacagct aaacggagtc gccacaccac tgtttgtgct ggatcgcagc gctgcctttc 180
 cttatgaaga agacacaaac ttggattctc acttgcattt atcttcagct gctcctattt 240
 aatcctctcg tcaaaactga agggatctgc aggaatcgtg tgactaataa tgtaaaagac 300
 gtcactaaat tgggtggcaa tcttccaaaa gactacatga taaccctcaa atatgtcccc 360
 gggatggatg ttttgccaag tcattgttgg ataagcgaga tggtagtaca attgtcagac 420
 agcttgactg atcttctgga caagttttca aatatttctg aaggcttgag taattattcc 480
 atcatagaca aacttgtgaa tatagtcgat gaccttgtgg agtgcgtcaa agaaaactca 540
 tctaaggatc taaaaaatc attcaagagc ccagaacca ggctctttac tcctgaagaa 600
 ttcttttagaa tttttaatag atccattgat gccttcaagg actttgtagt ggcatctgaa 660
 actagtgatt gtgtgggtttc ttcaacatta agtcctgaga aagggaaggc caaaaatccc 720
 cctggagact ccagcctaca ctgggcagcc atggcattgc cagcattgtt ttctcttata 780
 attggctttg cttttggagc cttatactgg aagaagagac agccaagtct tacaagggca 840
 gttgaaaata tacaaattaa tgaagaggat aatgagataa gtatgttgca agagaaagag 900
 agagagtttc aagaagtgta aattgtggct tgtatcaaca ctgttacttt cgtacattgg 960
 ctggtaacag ttcatgtttg cttcataaat gaagcagctt taaacaaatt catattctgt 1020
 ctggagtgc agaccacatc tttatctgtt cttgctaccc atgactttat atggatgatt 1080
 cagaaattgg aacagaatgt tttactgtga aactggcact gaattaatca tctataaaga 1140
 agaacttgca tggagcagga ctctatttta aggactgcgg gacttgggtc tcatttagaa 1200
 cttgcagctg atgttggaag agaaagcacg tgtctcagac tgcattgtacc atttgcattg 1260
 ctccagaaat gtctaaatgc tgaaaaaaca cctagcttta ttcttcagat acaaactgca 1320

<210> 87
 <211> 245
 <212> PRT
 <213> Homo sapiens

<400> 87

Met Lys Lys Thr Gln Thr Trp Ile Leu Thr Cys Ile Tyr Leu Gln Leu
 1 5 10 15

Leu Leu Phe Asn Pro Leu Val Lys Thr Glu Gly Ile Cys Arg Asn Arg
 20 25 30

Val Thr Asn Asn Val Lys Asp Val Thr Lys Leu Val Ala Asn Leu Pro
 35 40 45

Lys Asp Tyr Met Ile Thr Leu Lys Tyr Val Pro Gly Met Asp Val Leu
 50 55 60

Pro Ser His Cys Trp Ile Ser Glu Met Val Val Gln Leu Ser Asp Ser
 65 70 75 80

Leu Thr Asp Leu Leu Asp Lys Phe Ser Asn Ile Ser Glu Gly Leu Ser
 85 90 95

Asn Tyr Ser Ile Ile Asp Lys Leu Val Asn Ile Val Asp Asp Leu Val
 100 105 110

Glu Cys Val Lys Glu Asn Ser Ser Lys Asp Leu Lys Lys Ser Phe Lys
 115 120 125

Ser Pro Glu Pro Arg Leu Phe Thr Pro Glu Glu Phe Phe Arg Ile Phe
 130 135 140

Asn Arg Ser Ile Asp Ala Phe Lys Asp Phe Val Val Ala Ser Glu Thr
 145 150 155 160

Ser Asp Cys Val Val Ser Ser Thr Leu Ser Pro Glu Lys Gly Lys Ala
 165 170 175

Lys Asn Pro Pro Gly Asp Ser Ser Leu His Trp Ala Ala Met Ala Leu
 180 185 190

Pro Ala Leu Phe Ser Leu Ile Ile Gly Phe Ala Phe Gly Ala Leu Tyr

195

200

205

Trp Lys Lys Arg Gln Pro Ser Leu Thr Arg Ala Val Glu Asn Ile Gln
210 215 220

Ile Asn Glu Glu Asp Asn Glu Ile Ser Met Leu Gln Glu Lys Glu Arg
225 230 235 240

Glu Phe Gln Glu Val
245